



Notice D'installation

GNS3

Installation du logiciel GNS3

GNS3 (**Graphical Network Simulator**) est un logiciel libre permettant l'émulation ou la simulation de réseaux informatiques.

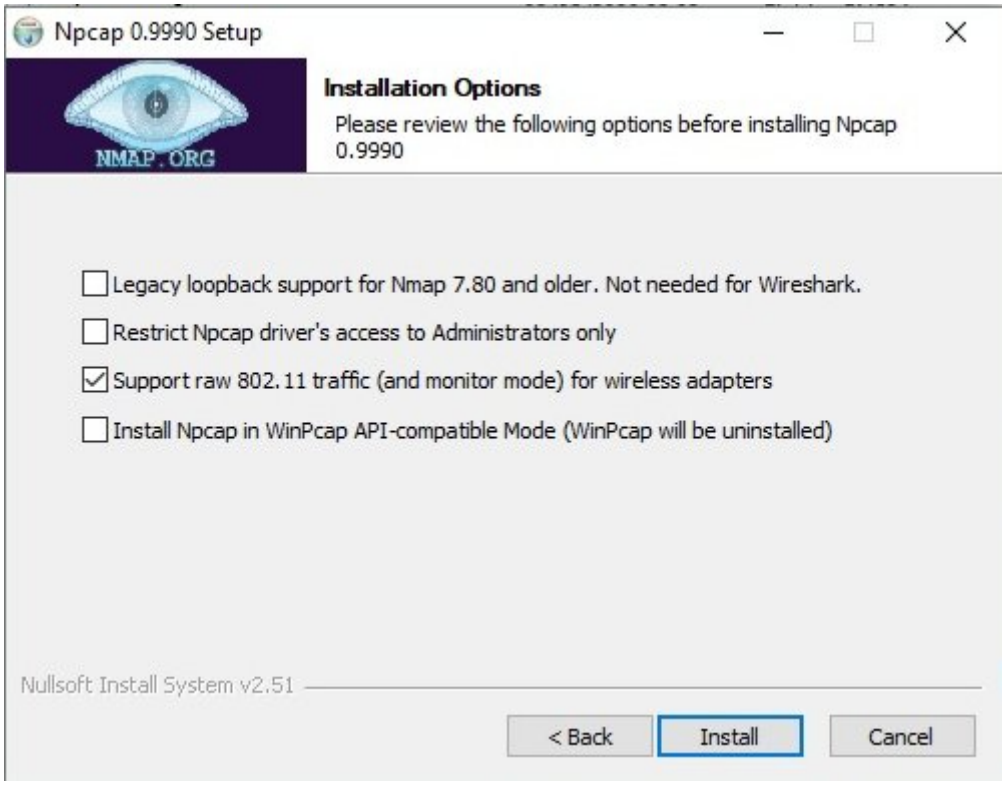
Il faut au préalable avoir installer les outils suivants :

Wireshark
VMware workstation pro 15
Putty
npcap
Double cliquez sur
VMware-workstation-full-15.5.2-15785246.exe

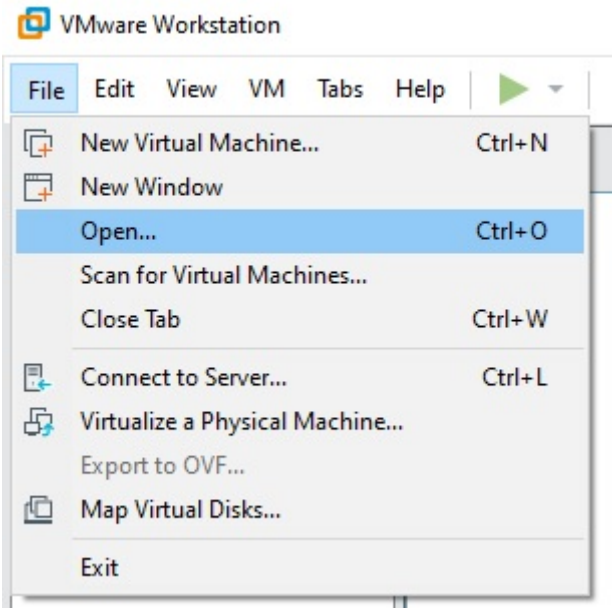


Pour l'installation de npcap :

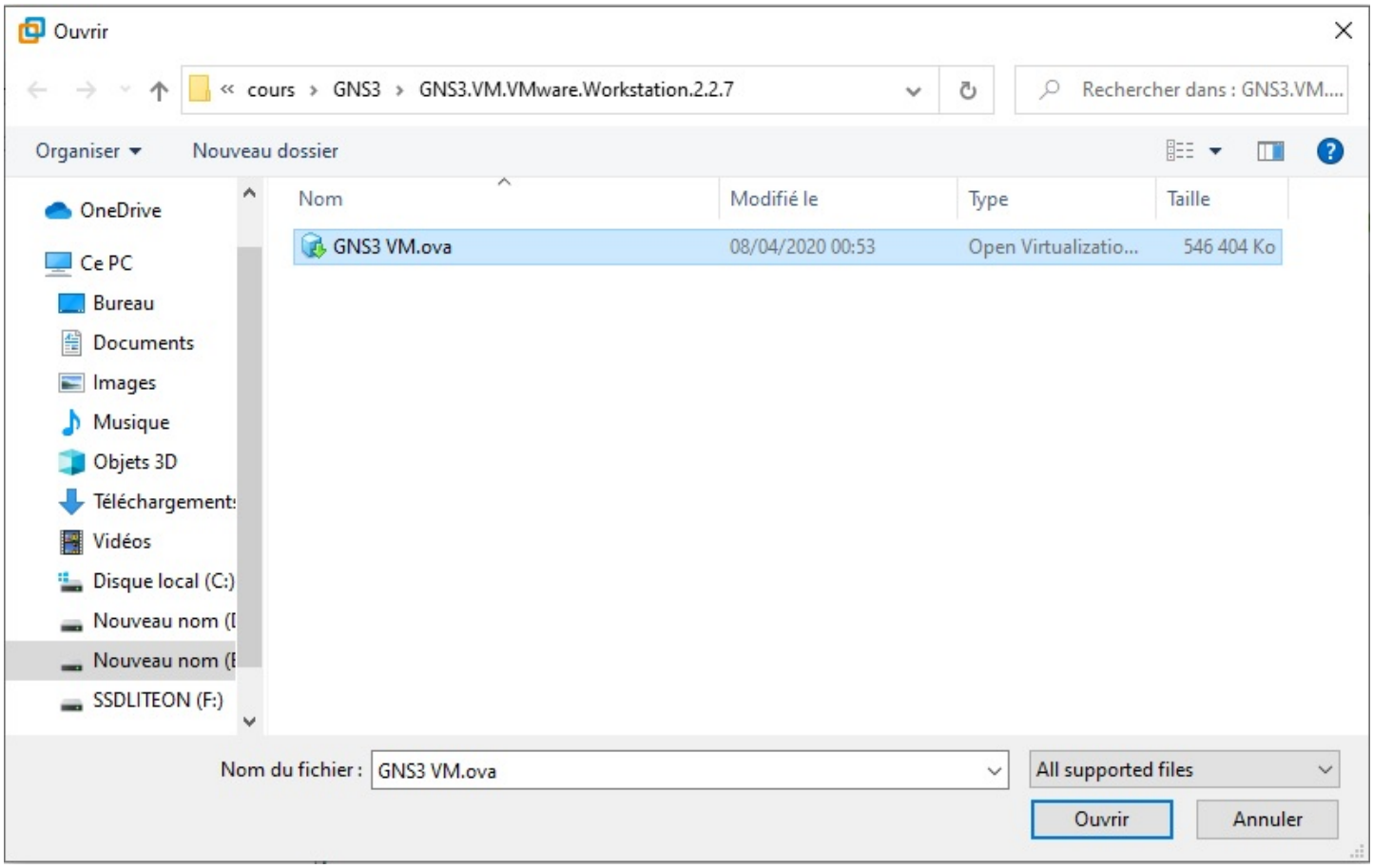
Cochez les éléments suivants :



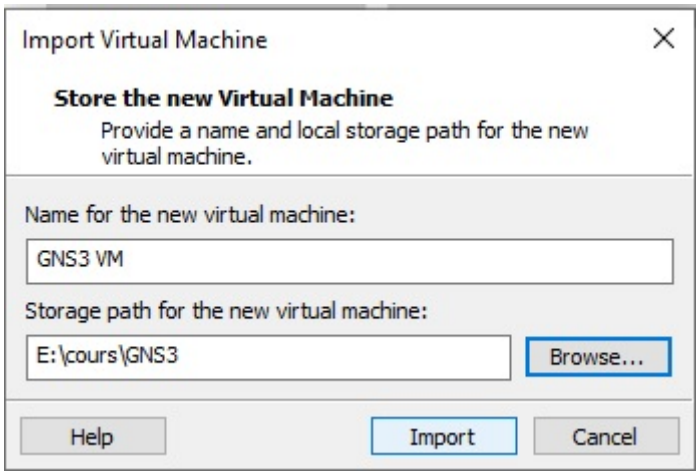
Après l'installation de vmware
Sélectionnez votre nouvelle machine virtuelle



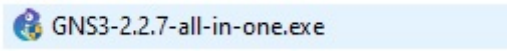
le fichier GNS3 VM.ova

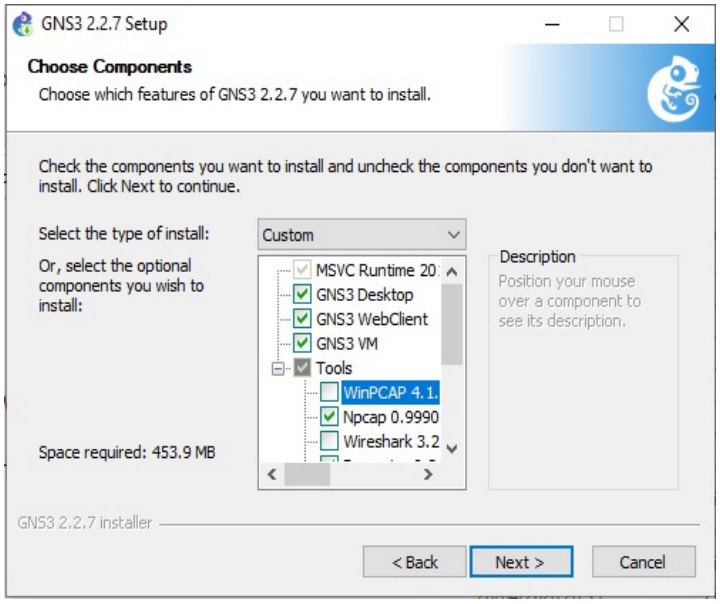


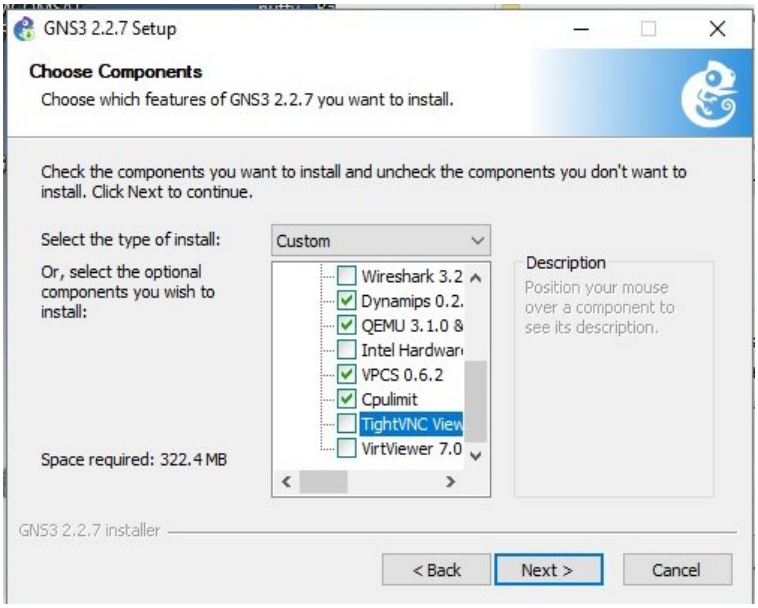
Choisir le chemin ou la machine virtuelle sera stockée



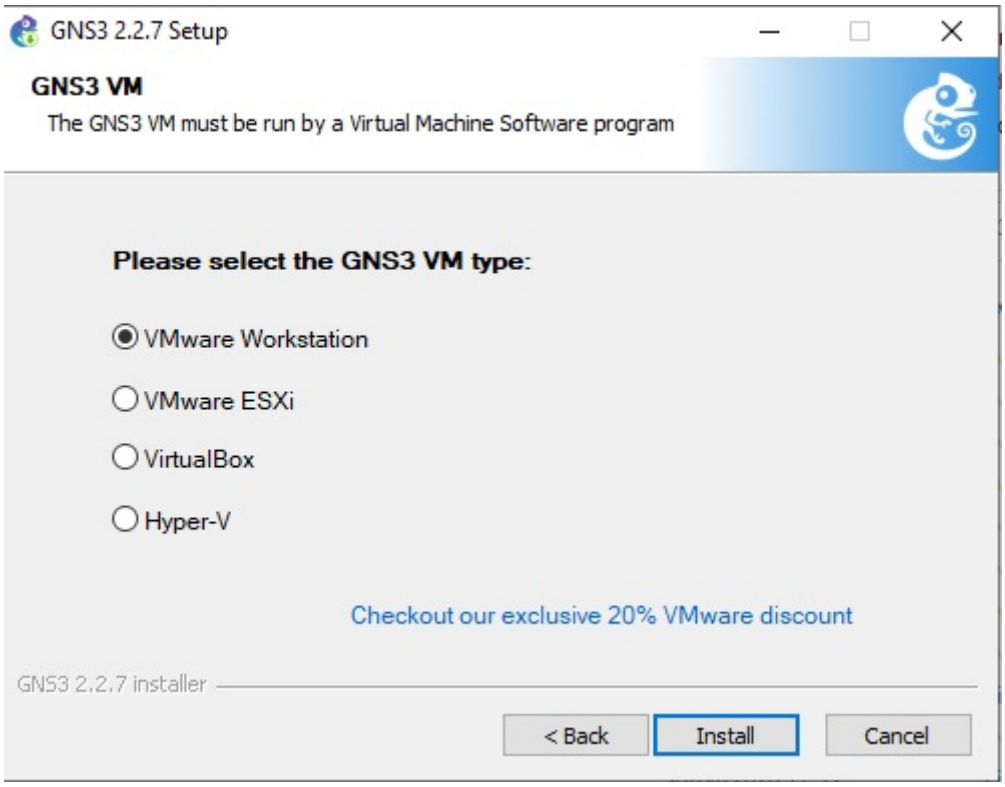
Lancez l'applicatif GNS3-2.2.7-all-in-one.exe



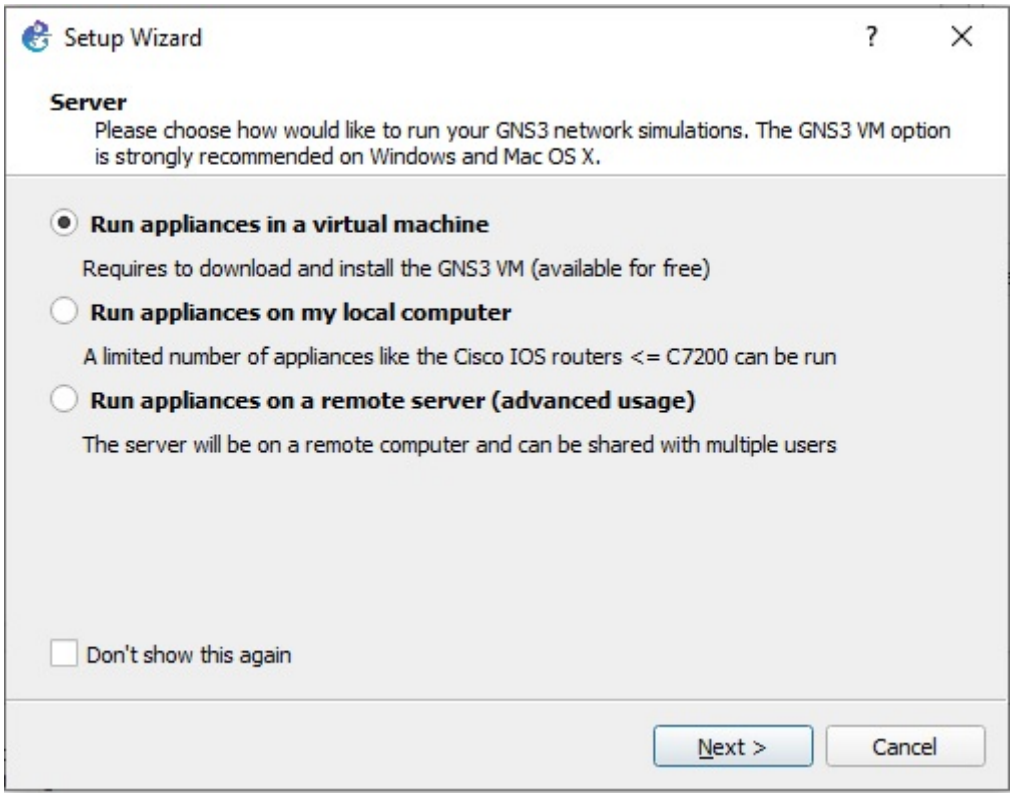




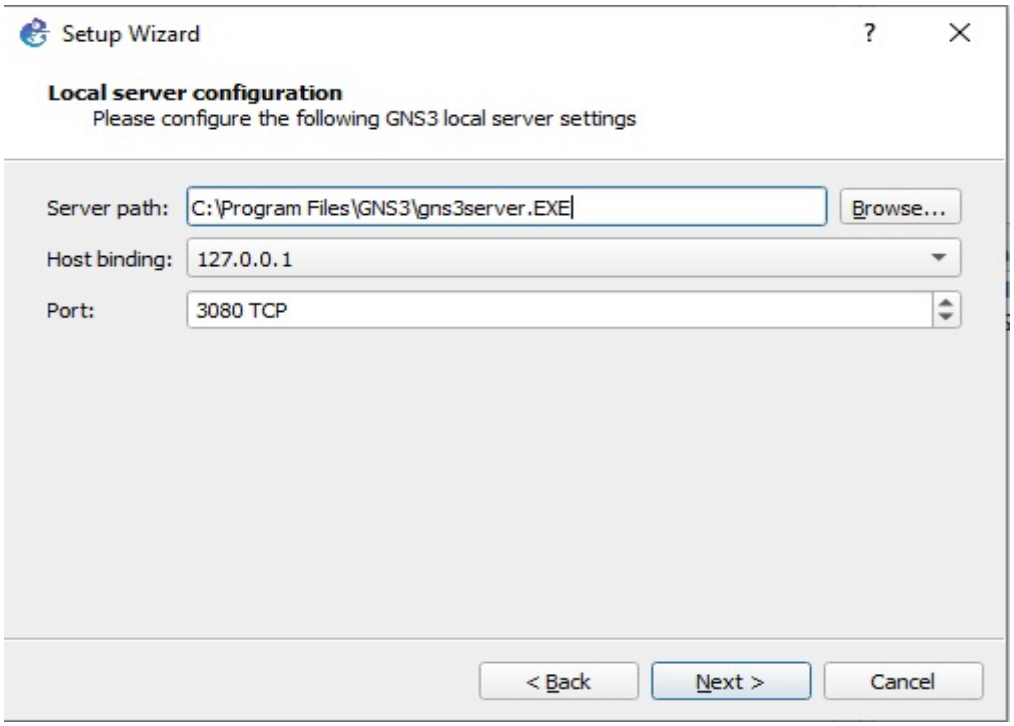
Cliquez sur next :
Sélectionnez vmware worstation



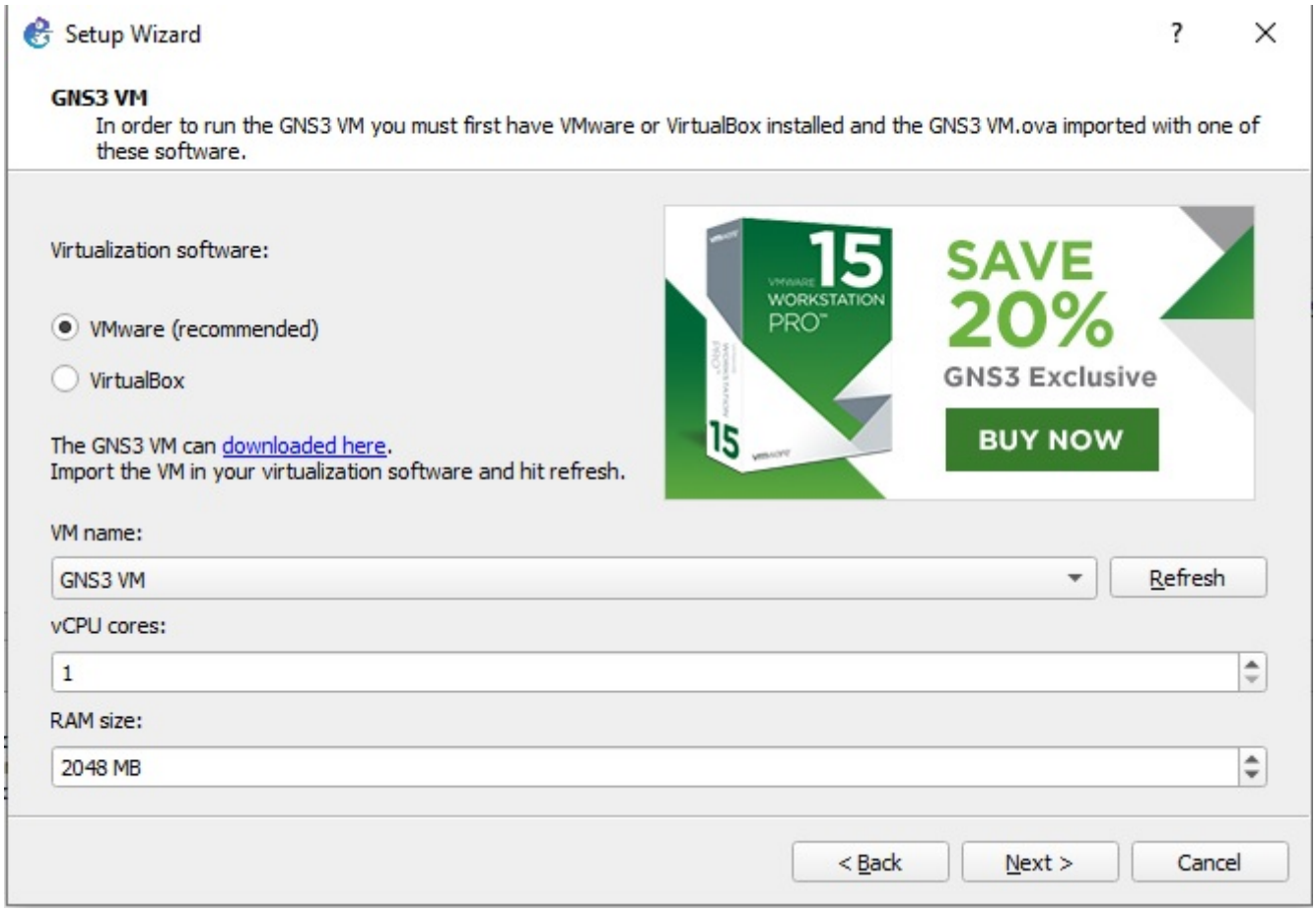
Sélectionnez l'utilisation de la machine virtuelle sur votre PC



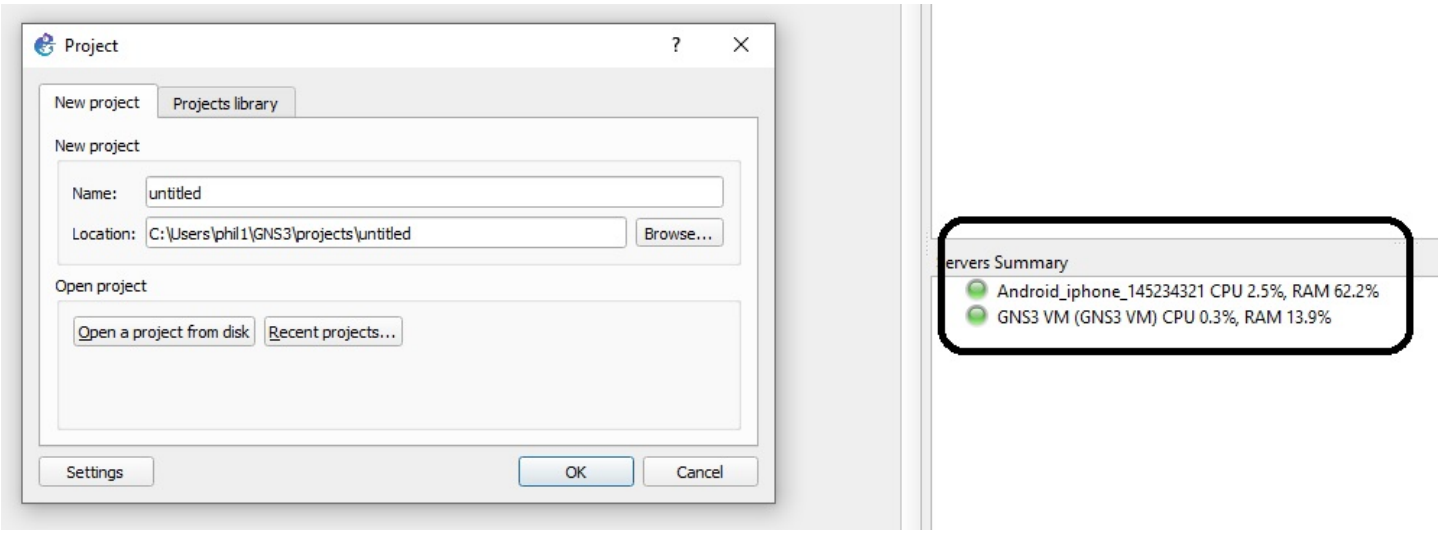
Cliquez sur next



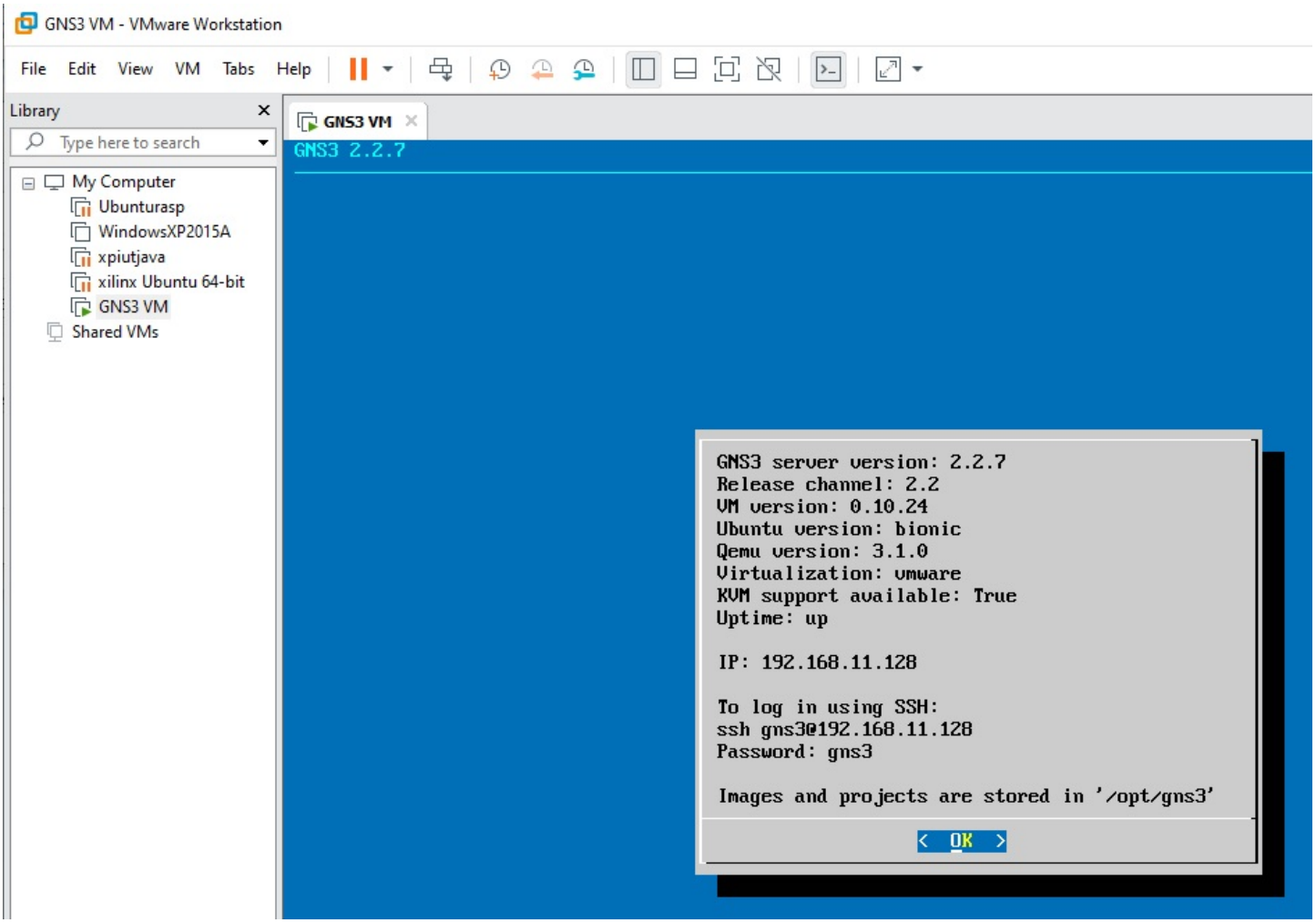
Puis sur suivant :



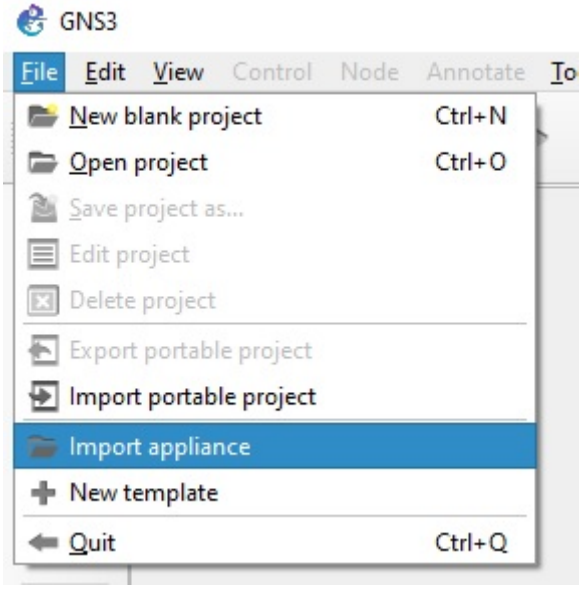
A droite tout est vert la machine virtuelle s'est lancée automatiquement :



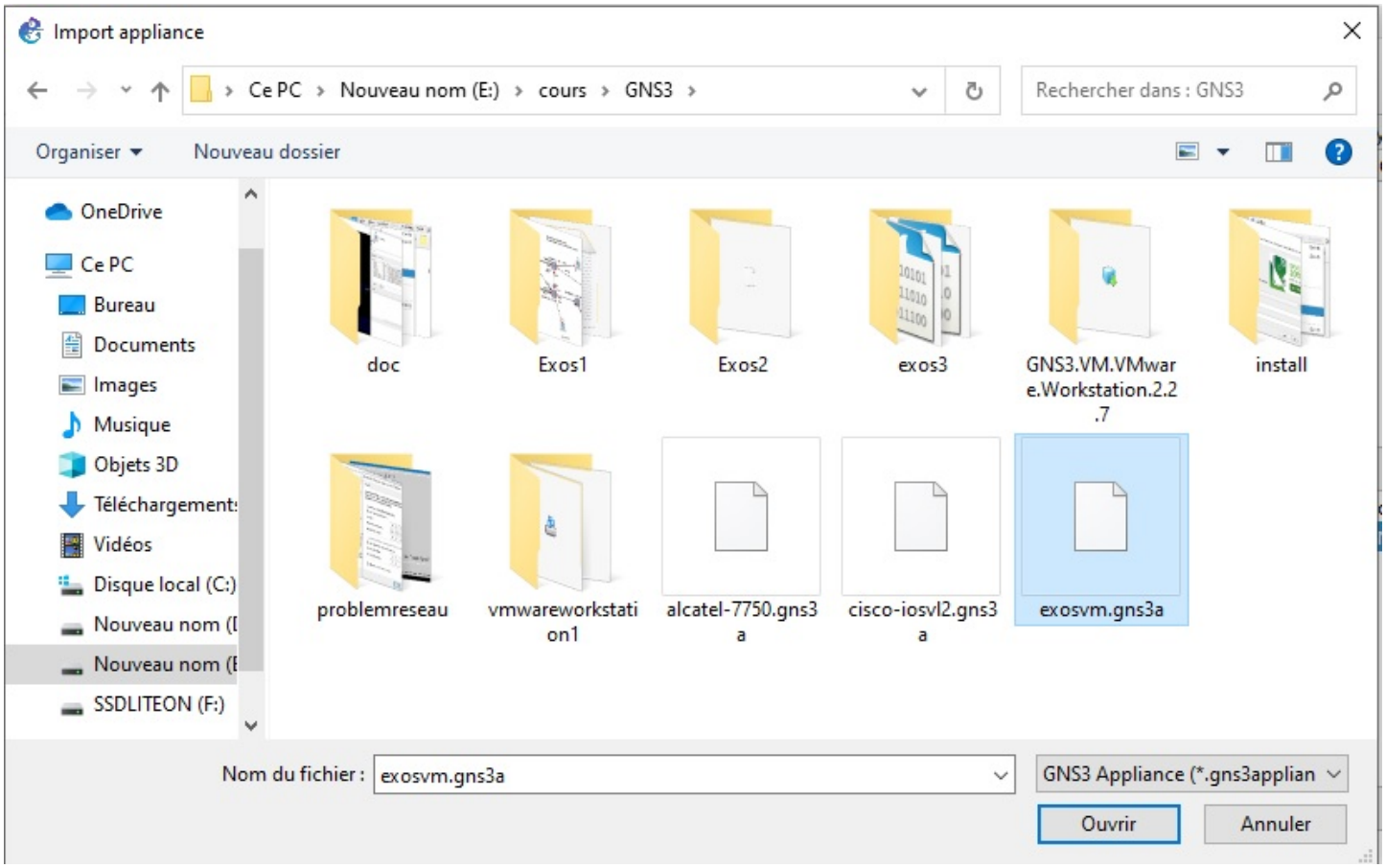
La machine virtuelle apparait attention au pare feu et antivirus si aucune @ IP n'est attribuée



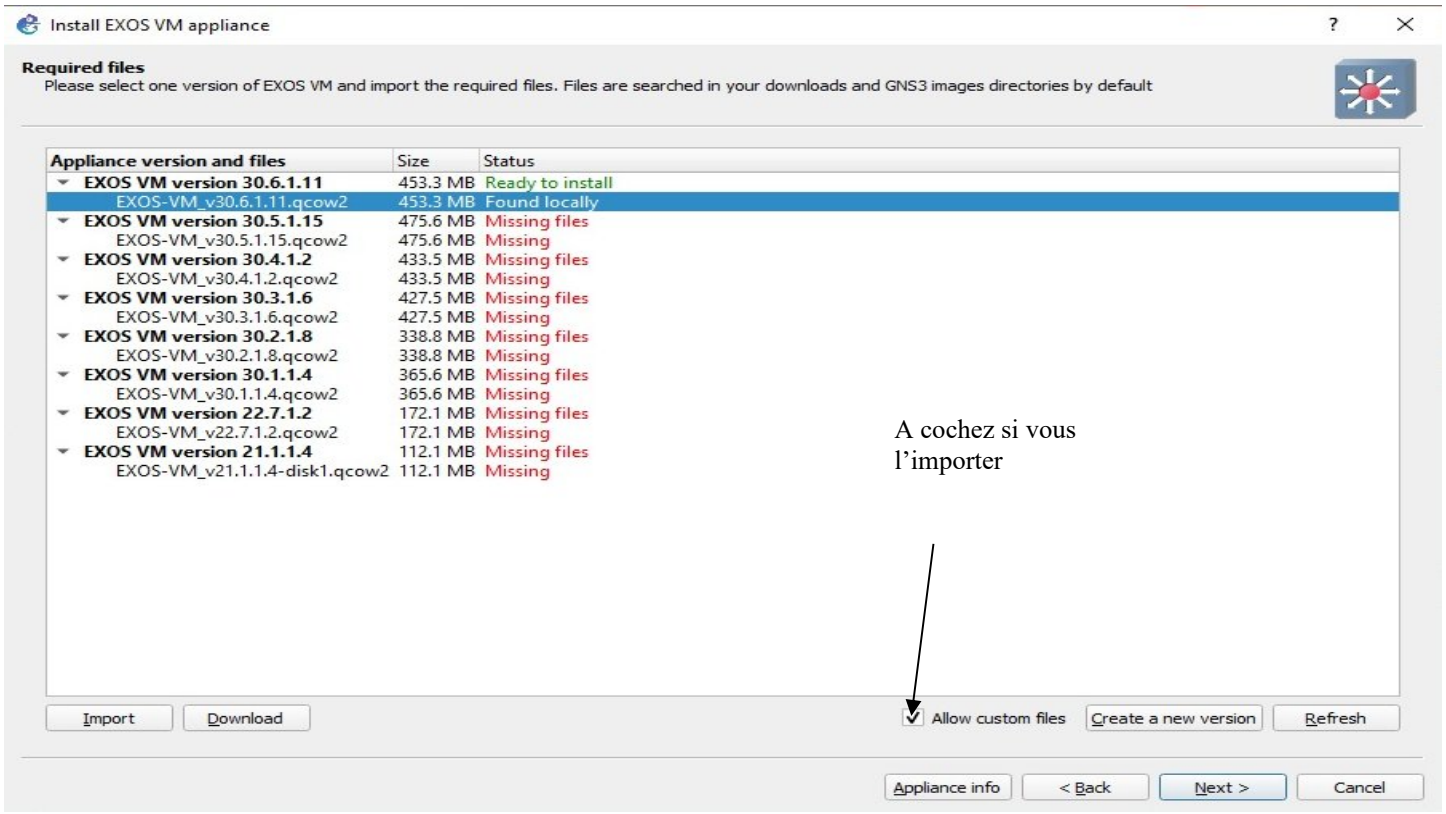
Pour émuler un commutateur de la société Extreme network , procédez de la façon suivante :



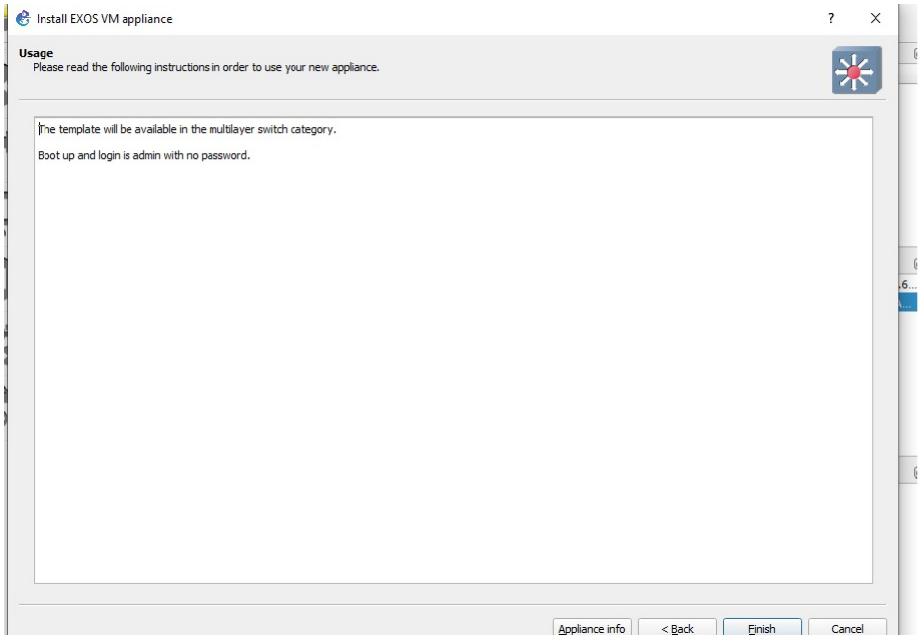
Sélectionnez le fichier exosvm.gns3a



Deux possibilités le télécharger ou l'importer si vous l'avez déjà télécharger (EXOS-VM_v30.6.1.11.qcow2)



Si tout se passe bien la fenêtre suivante apparait :



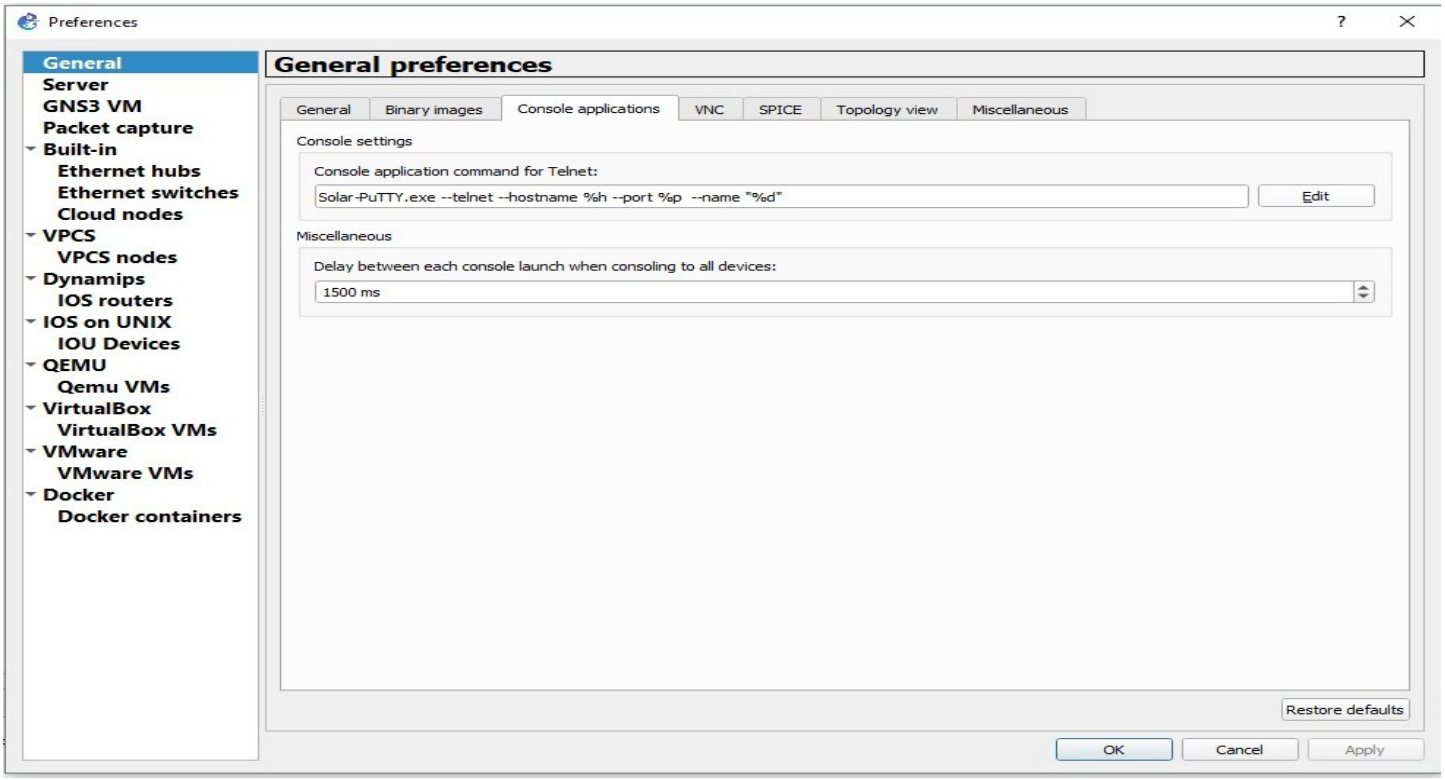
Cliquez sur next

Cliquez sur les composants disponibles :

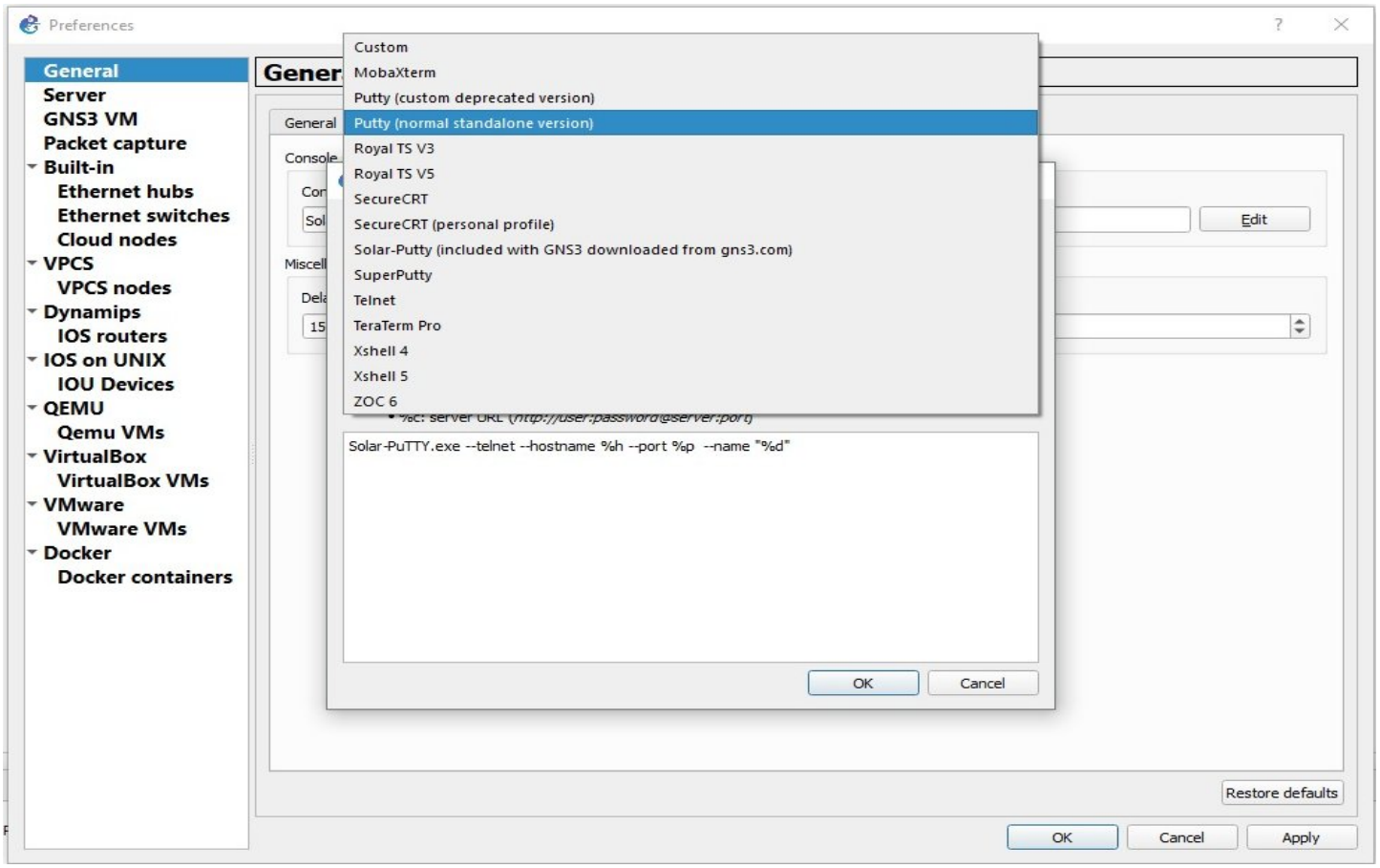

File Edit Viev
Browse all de


All devices
Filter
ATM switch
Cloud
Ethernet hub
Ethernet switch
EXOS VM 30.6.1.11
Frame Relay switch
NAT
VPCS
Extreme
Network

Mise en place de l'outil console dans le menu edit-→ preferences sélectionner l'onglet Consoles applications

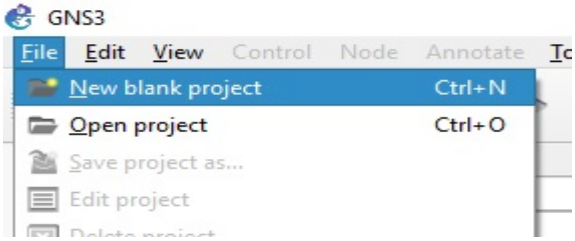


Puis choisir putty)

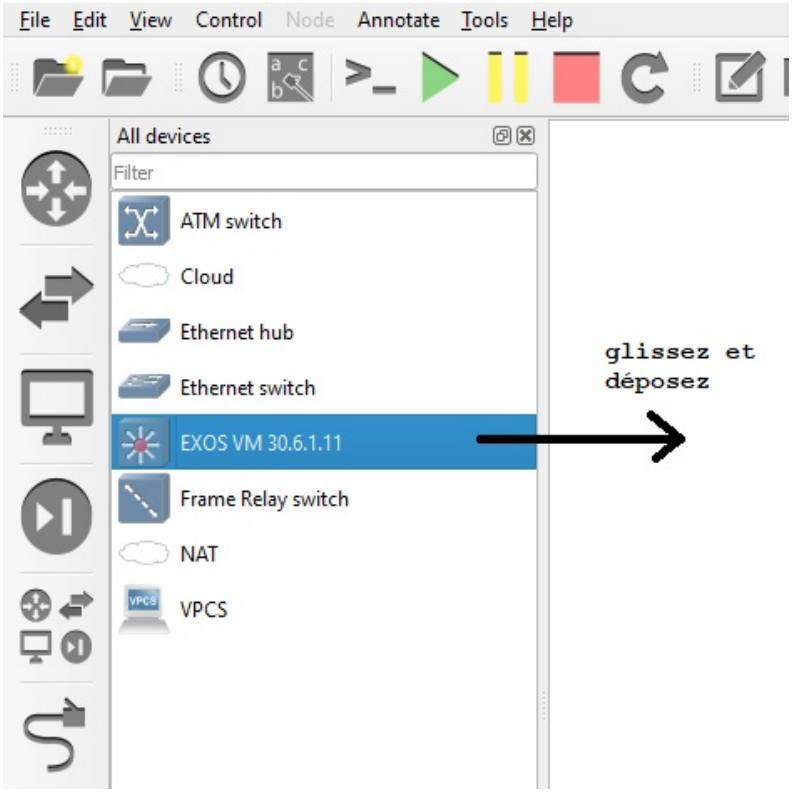


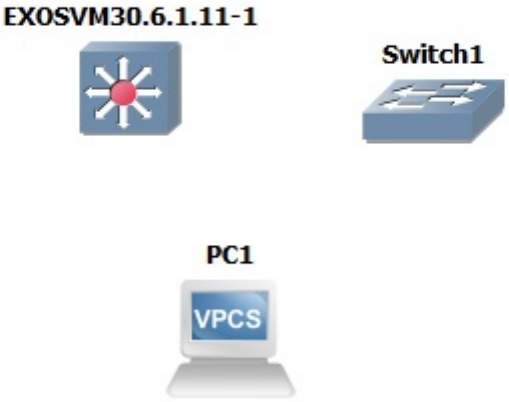
Faites ok apply et ok

Créez un nouveau projet :



Glissez et déposez vos composants

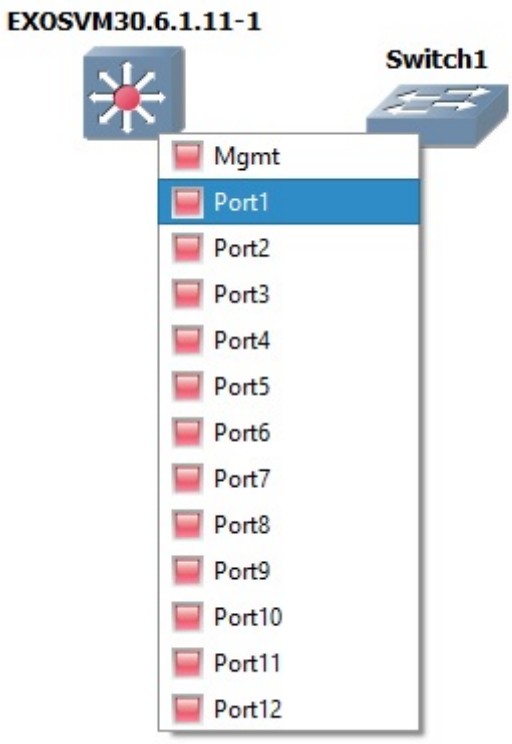




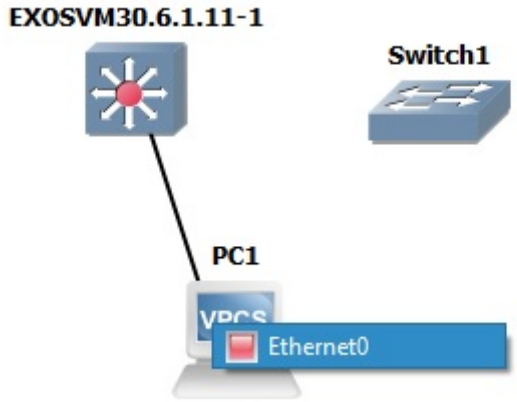
Pour créer une liaison cliquez sur l'outil :



Cliquez sur le point de départ de la liaison et choisir le bon port :

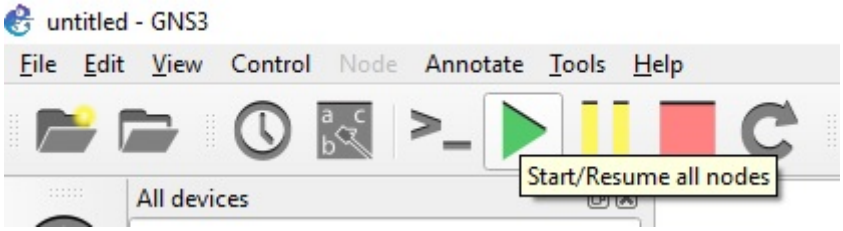


Cliquez sur le point d'arrivée et le bon port:

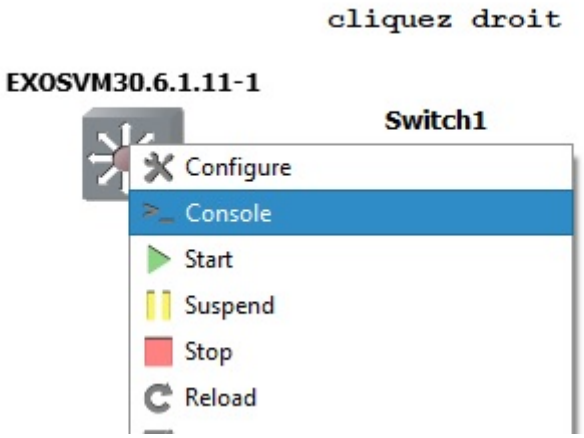


Finissez votre schéma

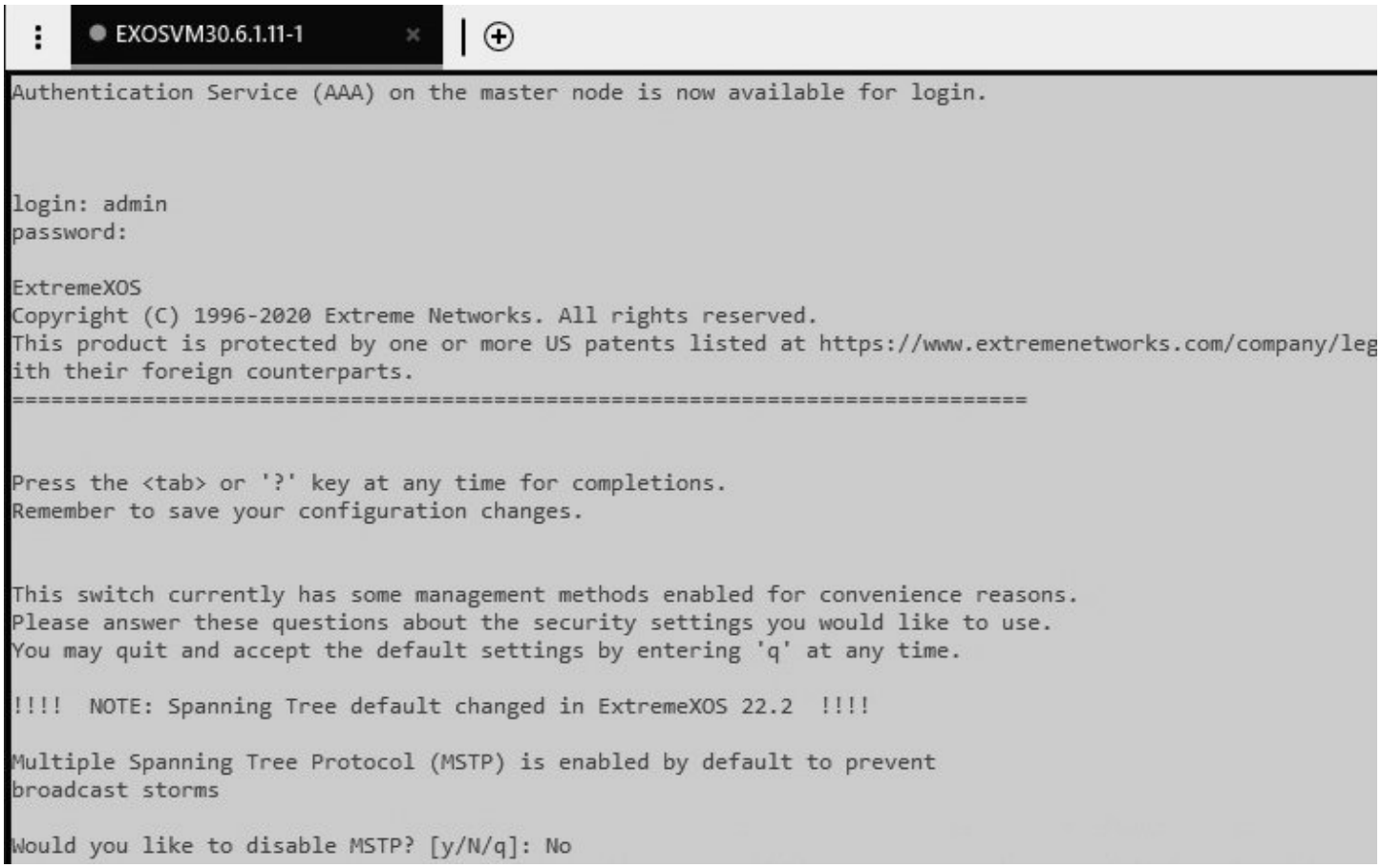
Lancez la machine :



Ouvrir la console du commutateur :



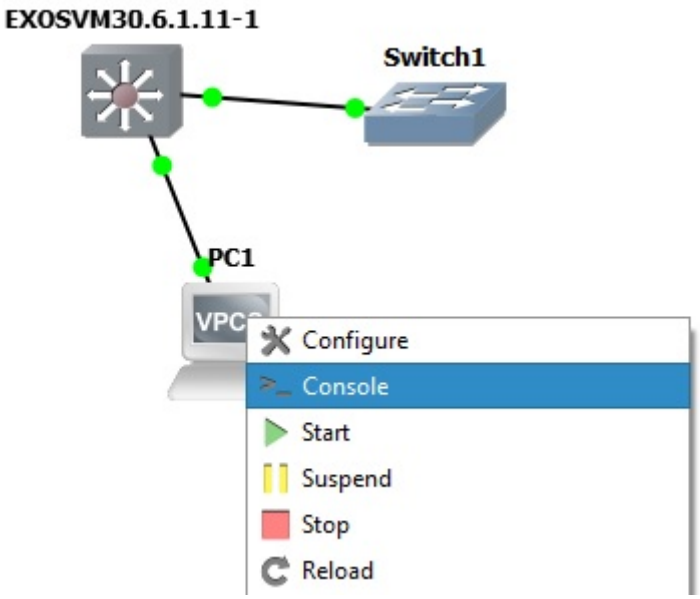
Tapez le login : admin, password : aucun, répondre no à toutes les questions



Le Prompt attend nos commandes



Pour ouvrir la console du PC (VPCS) :



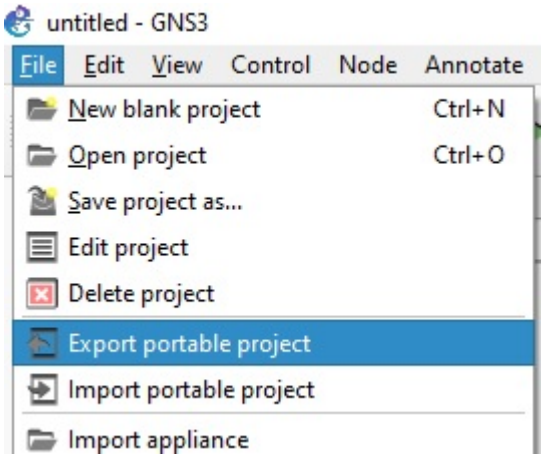
Rentrez l'@IP du PC son masque de sous réseau l'@IP de passerelle par défaut :

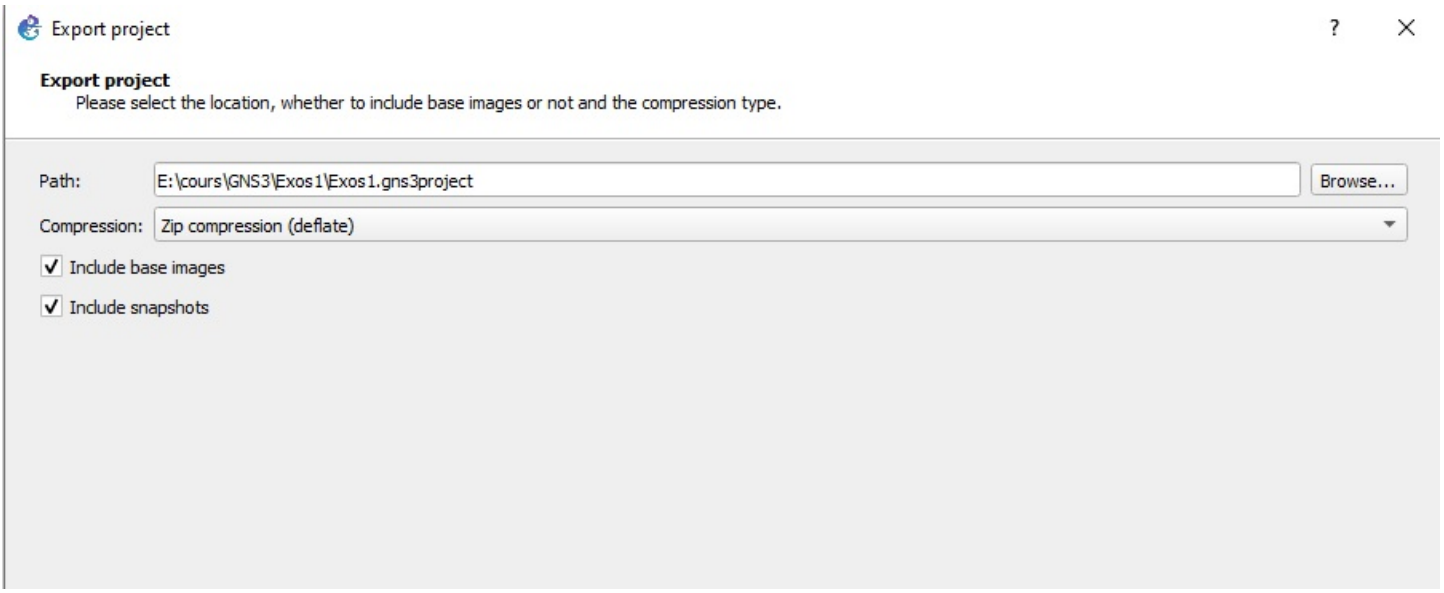
```
PC1> ip 192.9.200.50/24 192.9.200.6
Checking for duplicate address...
PC1 : 192.9.200.50 255.255.255.0 gateway 192.9.200.6

PC1>
```

Pour sauvegarder la configuration du commutateur save config
Pour sauvegarder la configuration du PC save

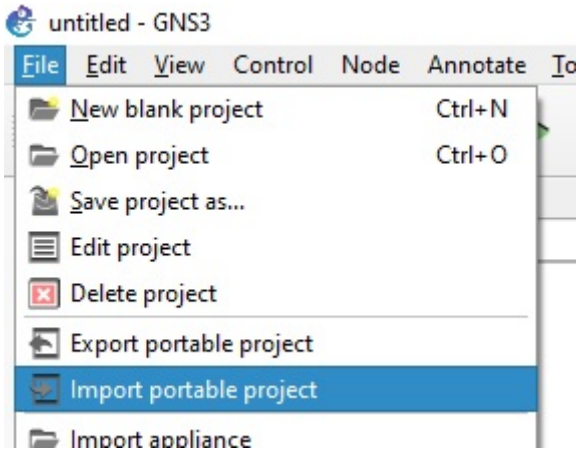
L'émulation du commutateur est effectuée par le composant qemu au niveau de la machine virtuelle et la configuration du commutateur est enregistrée aussi sur cette machine
Afin de pourvoir importer notre projet sur une nouvelle machine virtuelle il faut l'exporter :





Cliquez sur next

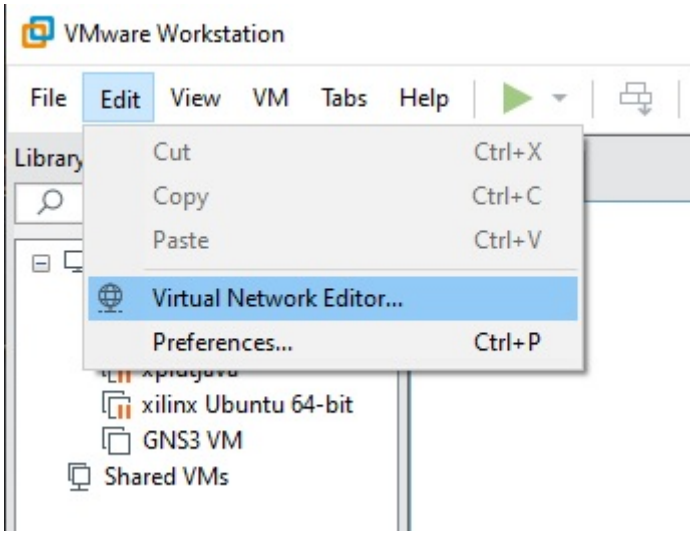
Pour l'importer faites la procédure inverse (nécessaire pour ouvrir un projet déjà exporté):



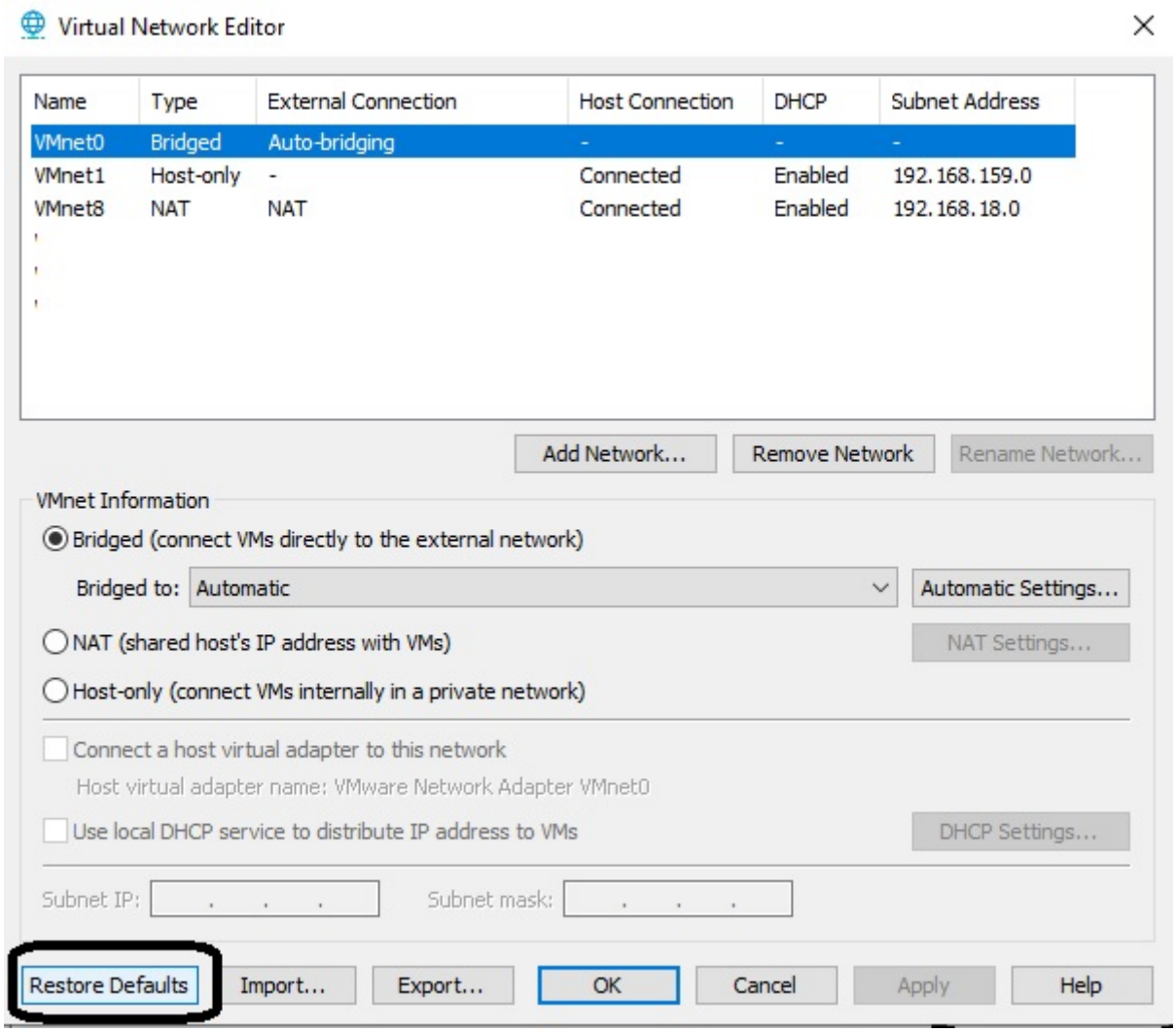
Problème réseau :

Lors de la mise en place du composant cloud la connexion vers le serveur de machine virtuelle devient impossible

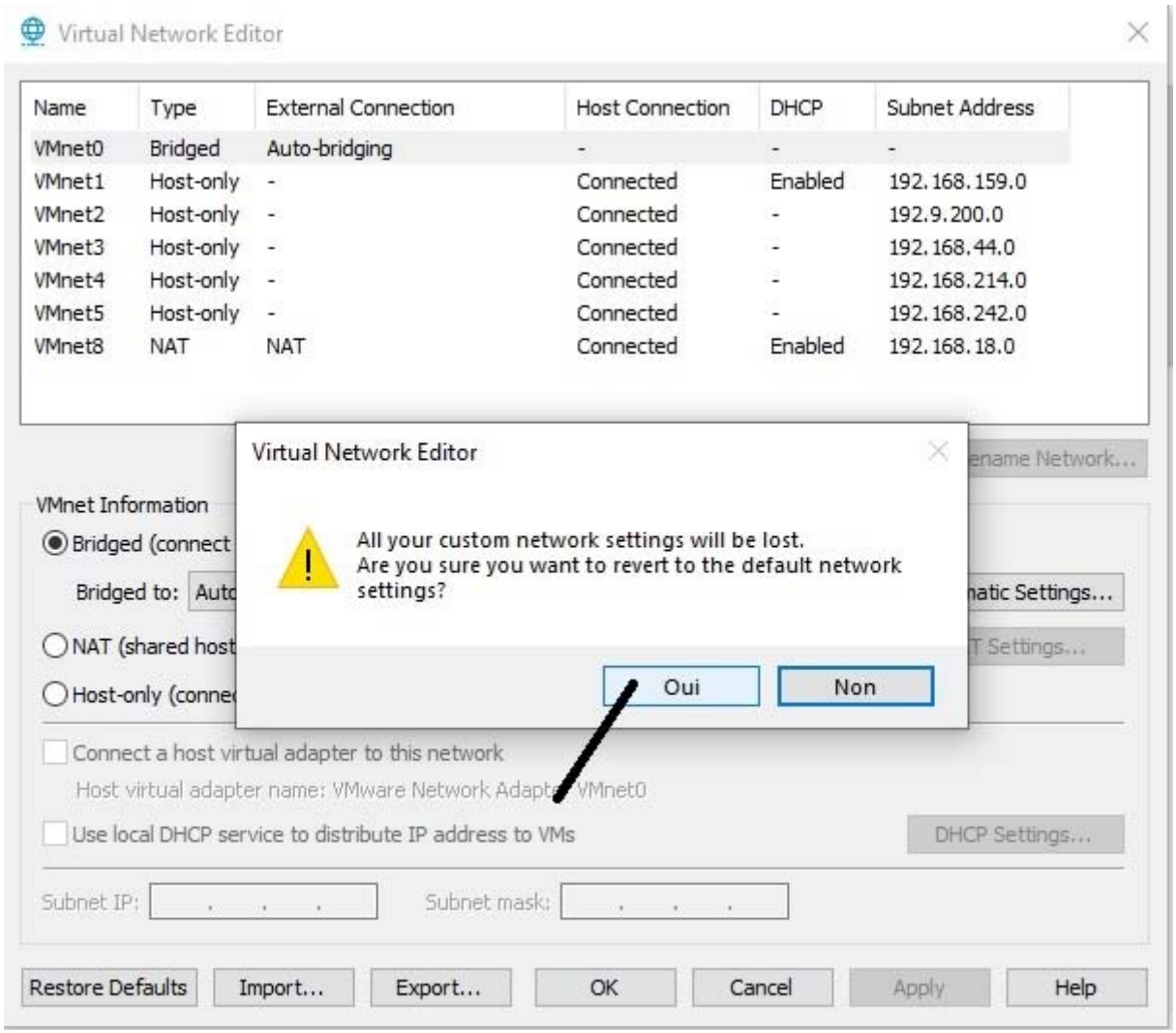
Sous vmware cliquez sur virtual network editor



Cliquez sur restore default



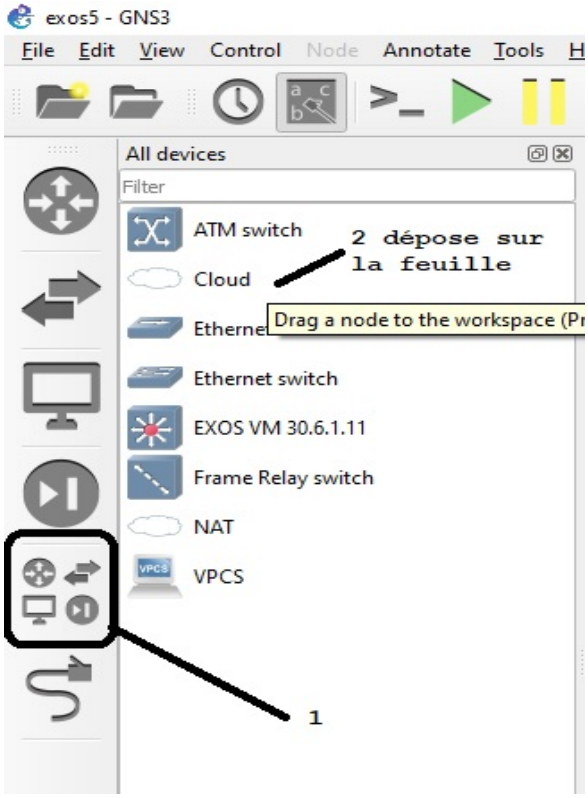
Cliquez sur oui


Virtual Network Editor
Name Type External Connection Host Connection DHCP Subnet Address
VMnet0 Bridged Auto-bridging - - -
VMnet1 Host-only - Connected Enabled 192.168.159.0
VMnet2 Host-only - Connected - 192.9.200.0
VMnet3 Host-only - Connected - 192.168.44.0
VMnet4 Host-only - Connected - 192.168.214.0
VMnet5 Host-only - Connected - 192.168.242.0
VMnet8 NAT NAT Connected Enabled 192.168.18.0
Virtual Network Editor
All your custom network settings will be lost.
Are you sure you want to revert to the default network settings?
Oui
Non
VMnet Information
Bridged (connect
Bridged to:
NAT (shared host
Host-only (conne
Connect a host virtual adapter to this network
Host virtual adapter name: VMware Network Adapter VMnet0
Use local DHCP service to distribute IP address to VMs
DHCP Settings...
Subnet IP:
Subnet mask:
Restore Defaults
Import...
Export...
OK
Cancel
Apply
Help

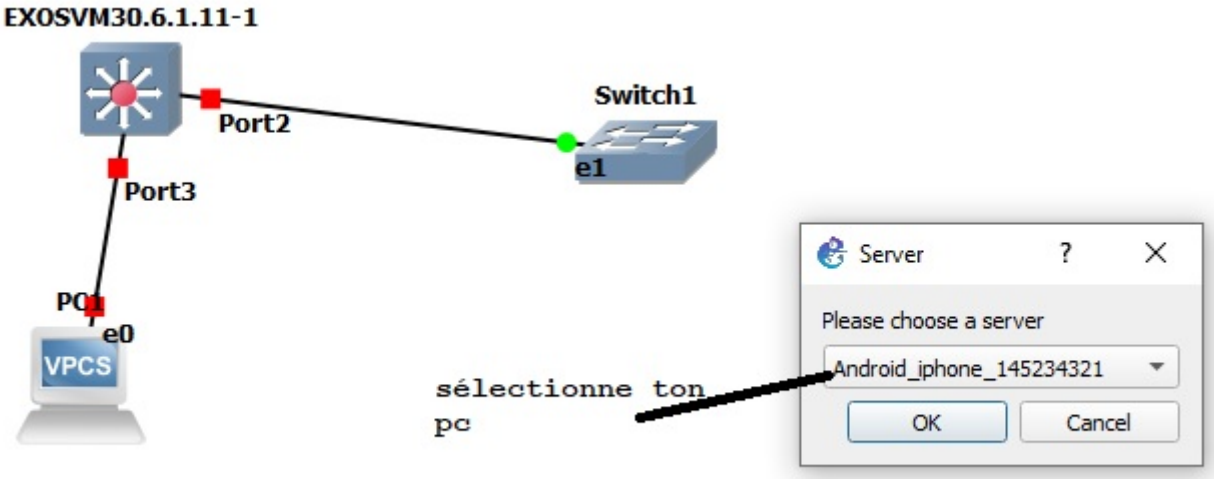
Mise en place du composant cloud

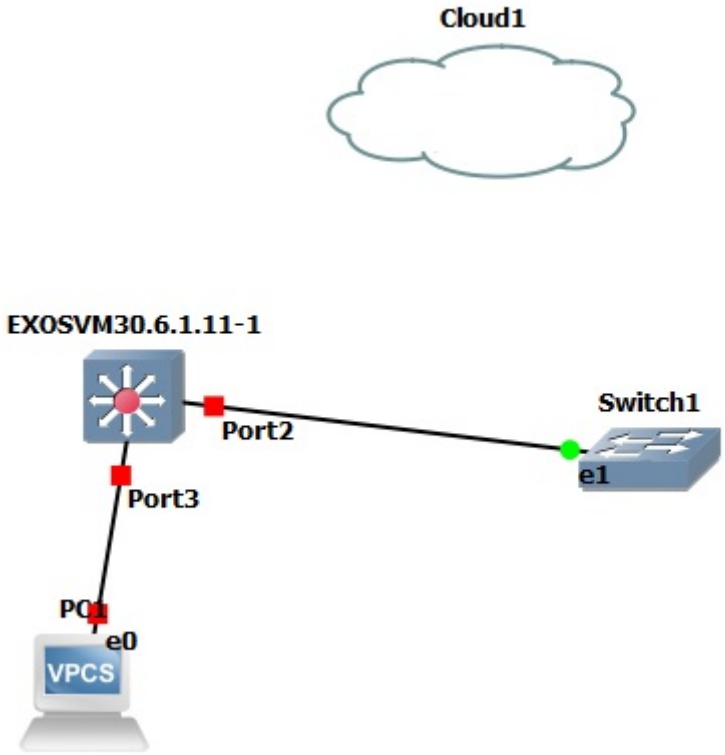
Le composant cloud va nous permettre de passer de l'environnement virtuel vers notre réseau physique

Sélectionner l'icone composant :

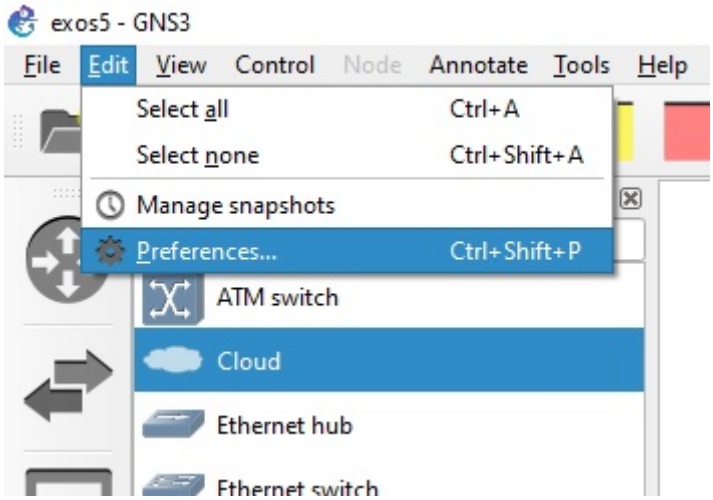


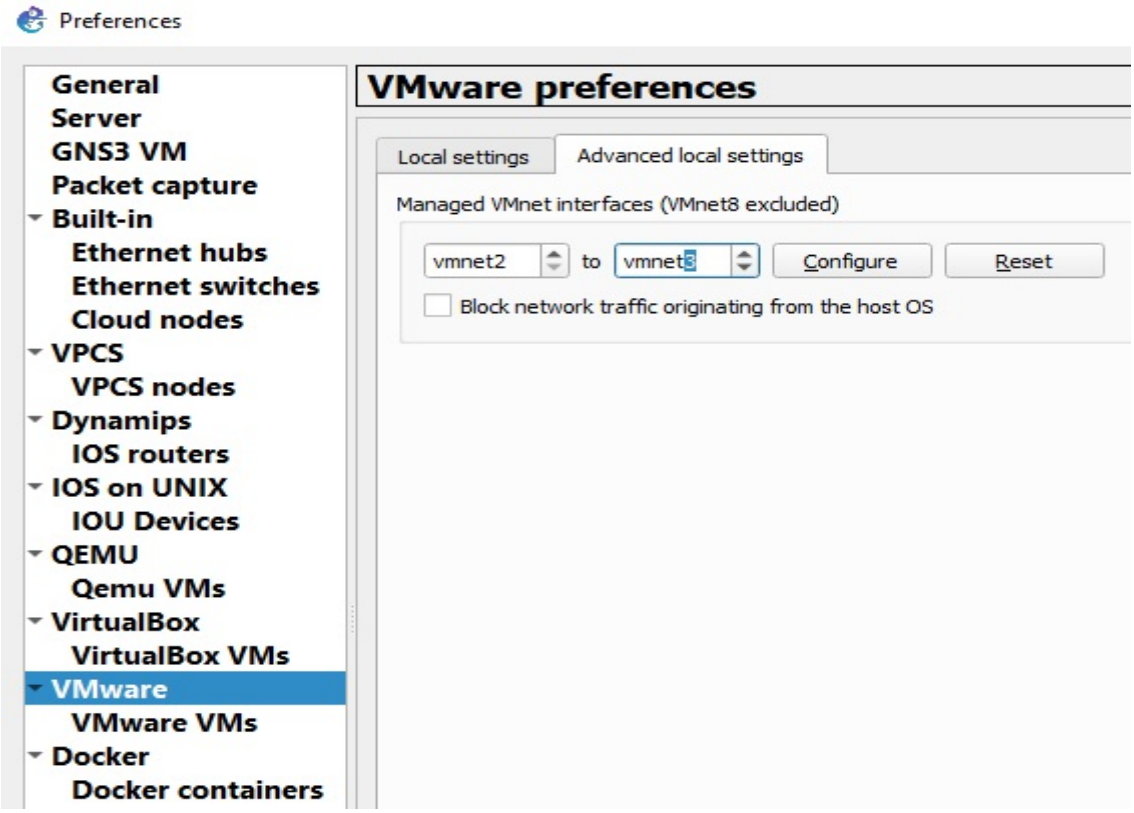
Puis glisser le composant cloud sur la feuille



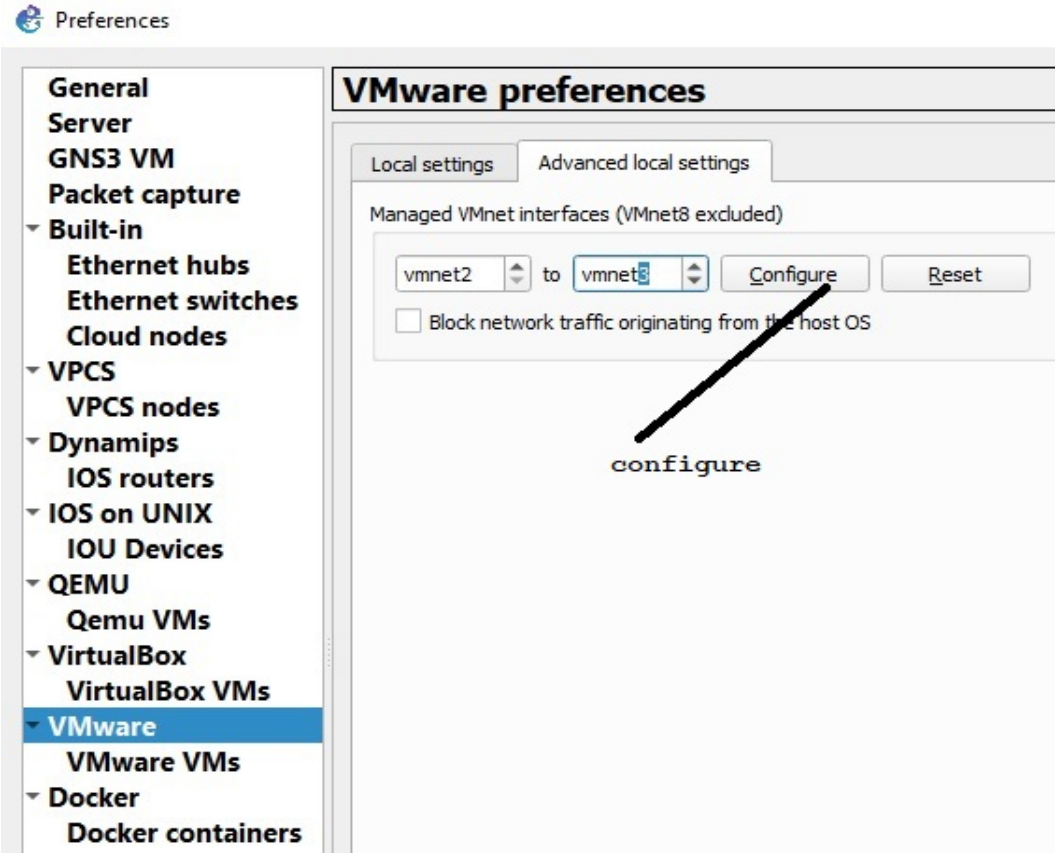


On va par la suite mettre en place un lien réseau nous permettant de passer de l'environnement virtuel vers notre réseau physique

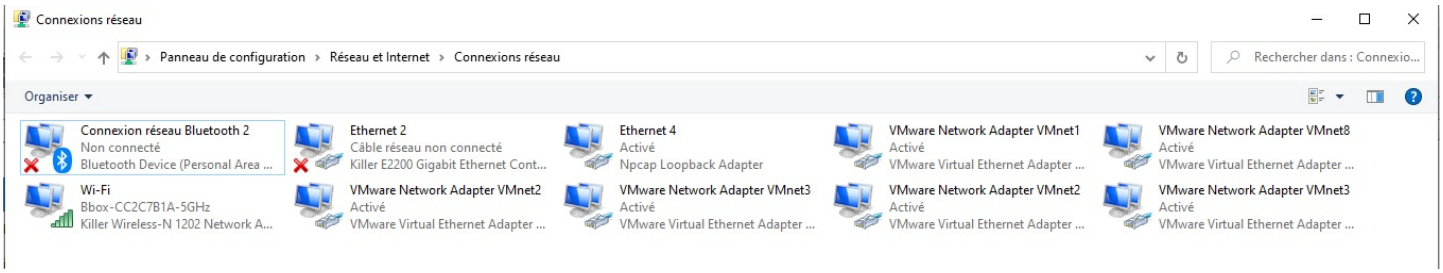




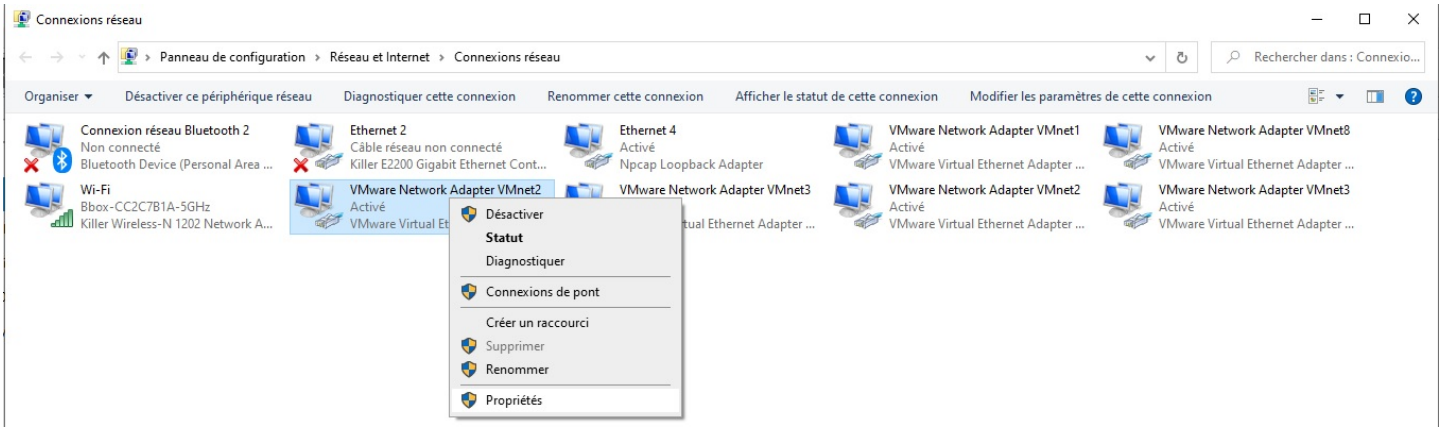
Sélectionner vmware et l'onglet advanced local setting

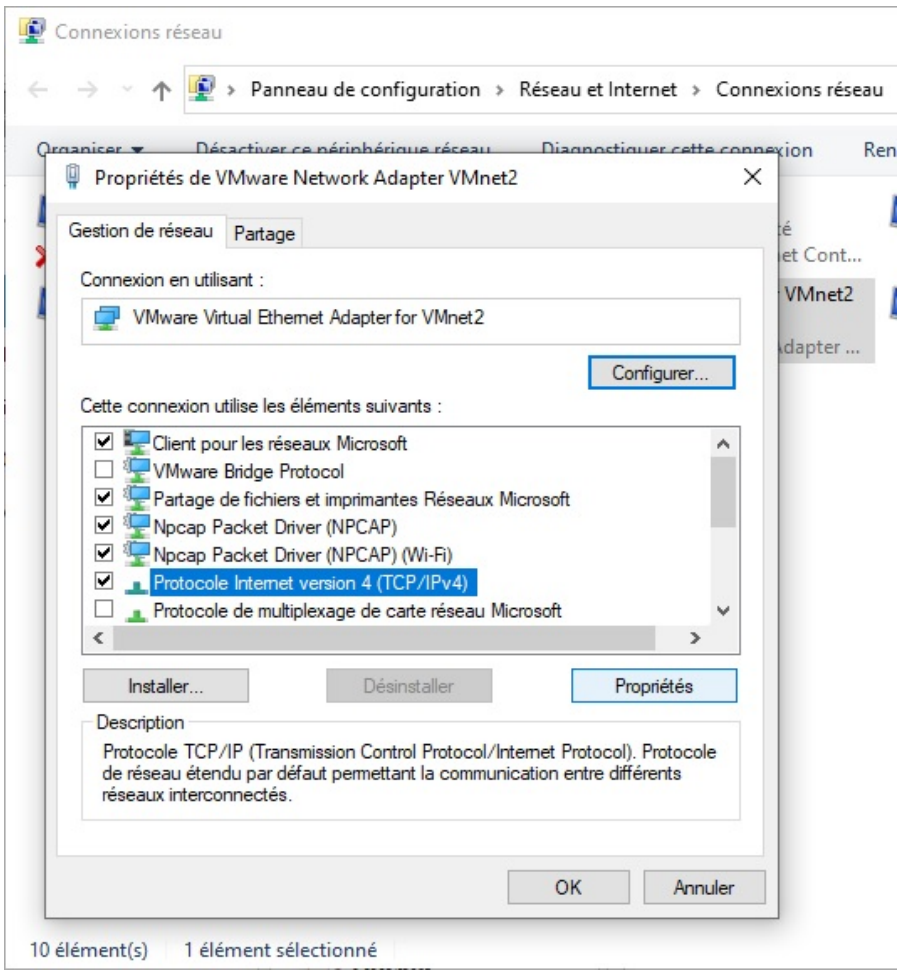


De nouvelle interface apparaisse :

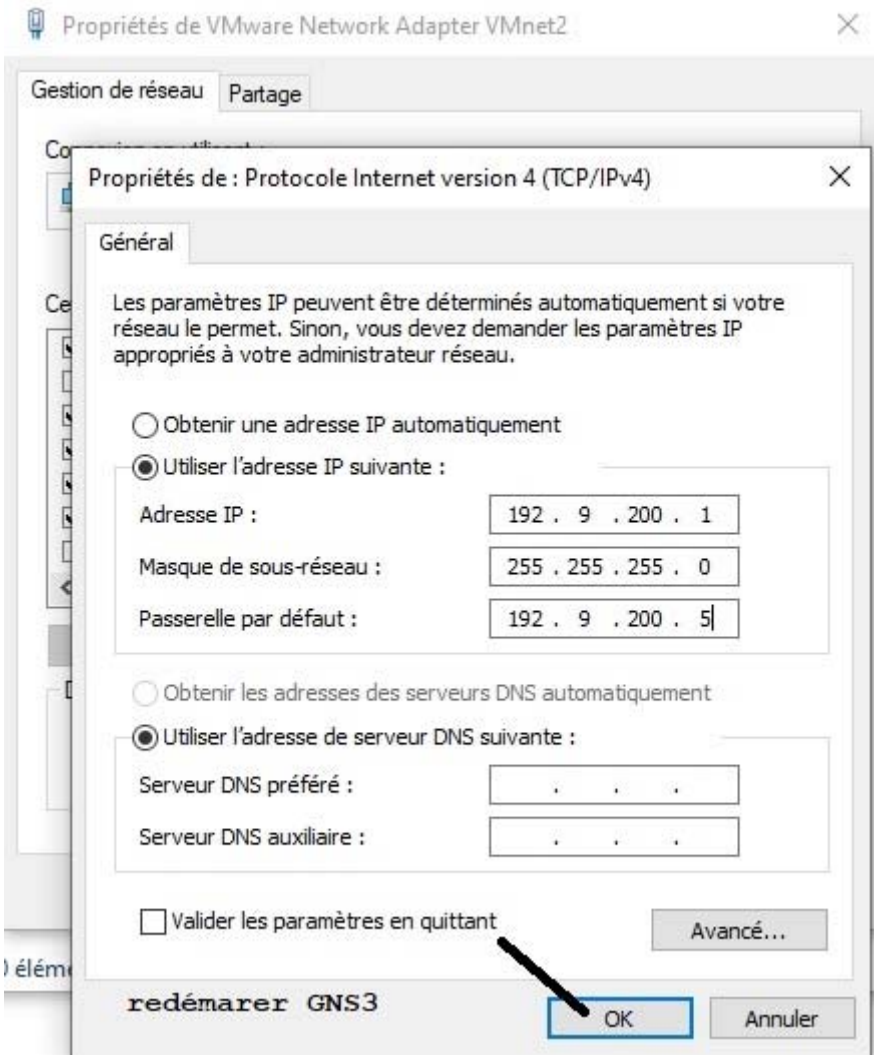


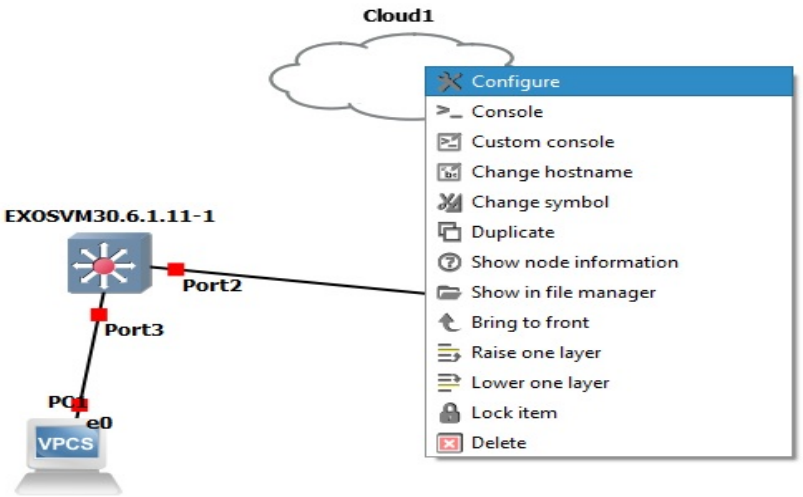
Sélectionner l'interface vmnet2

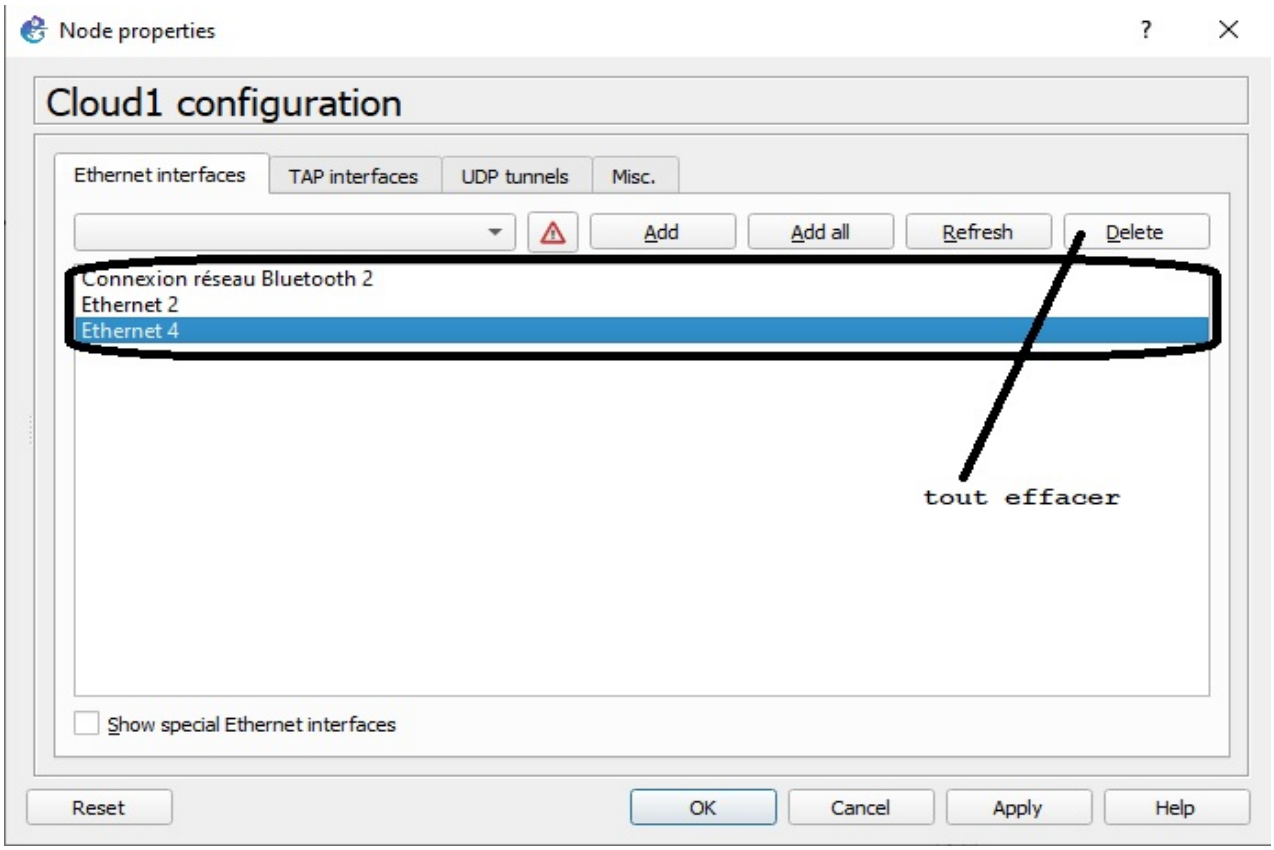




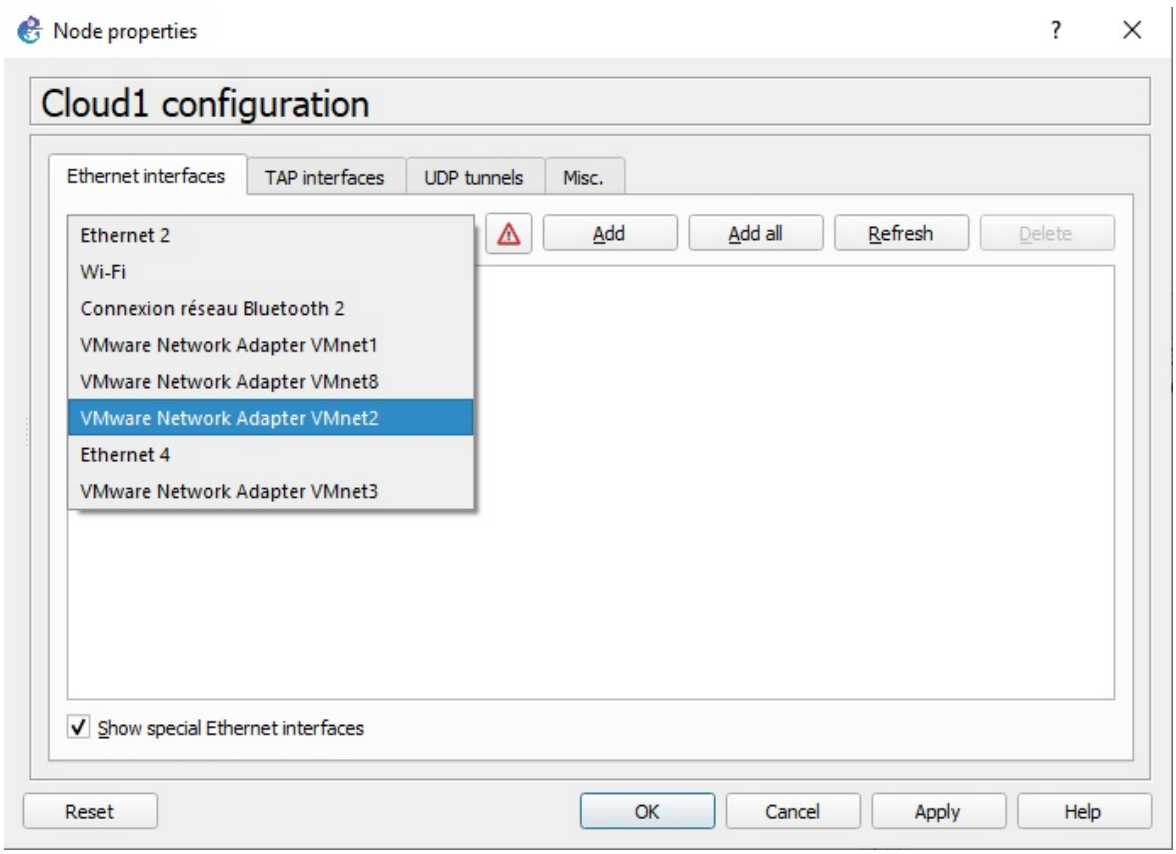
Rentrer les paramètres réseaux adéquates faire ok puis fermer, redémarrez GNS3

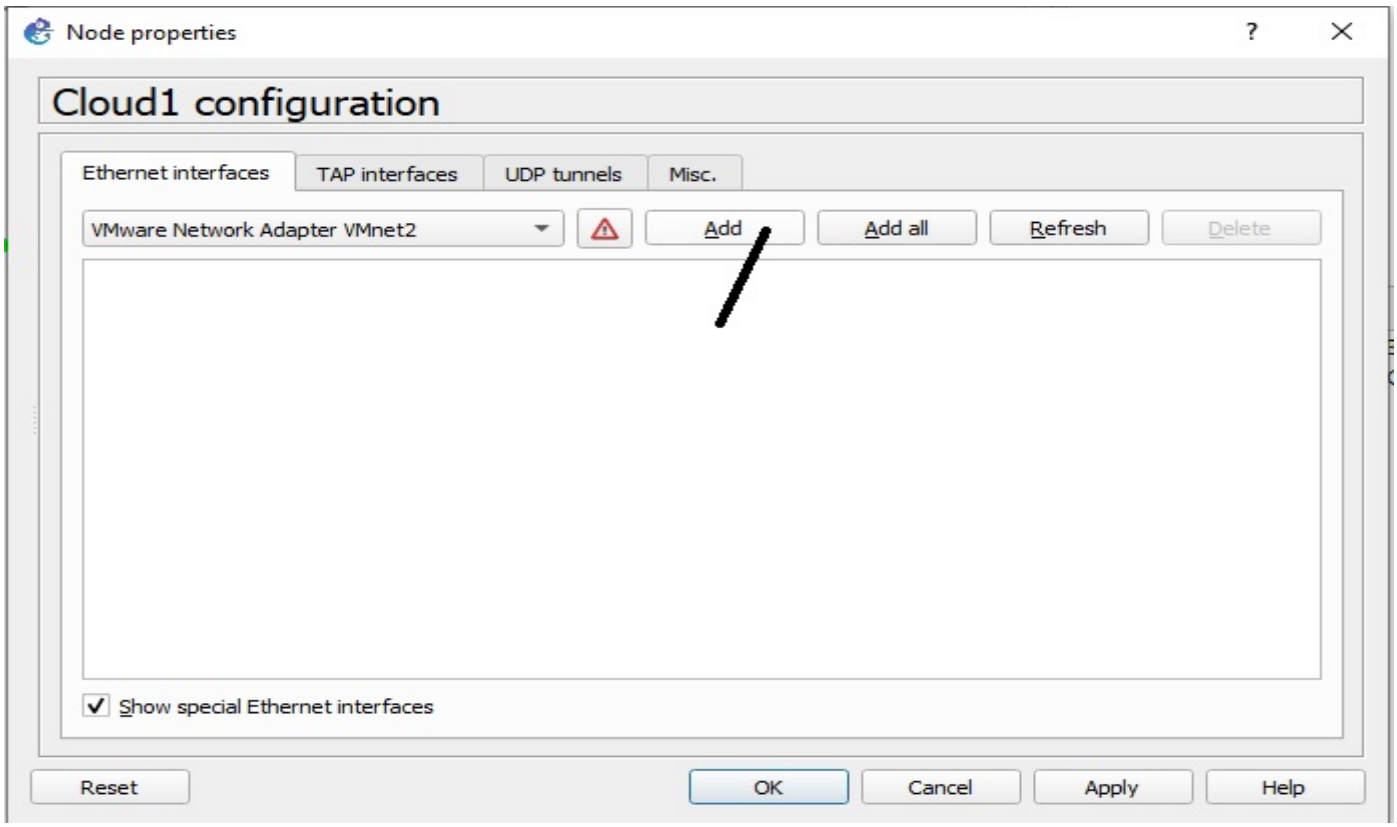


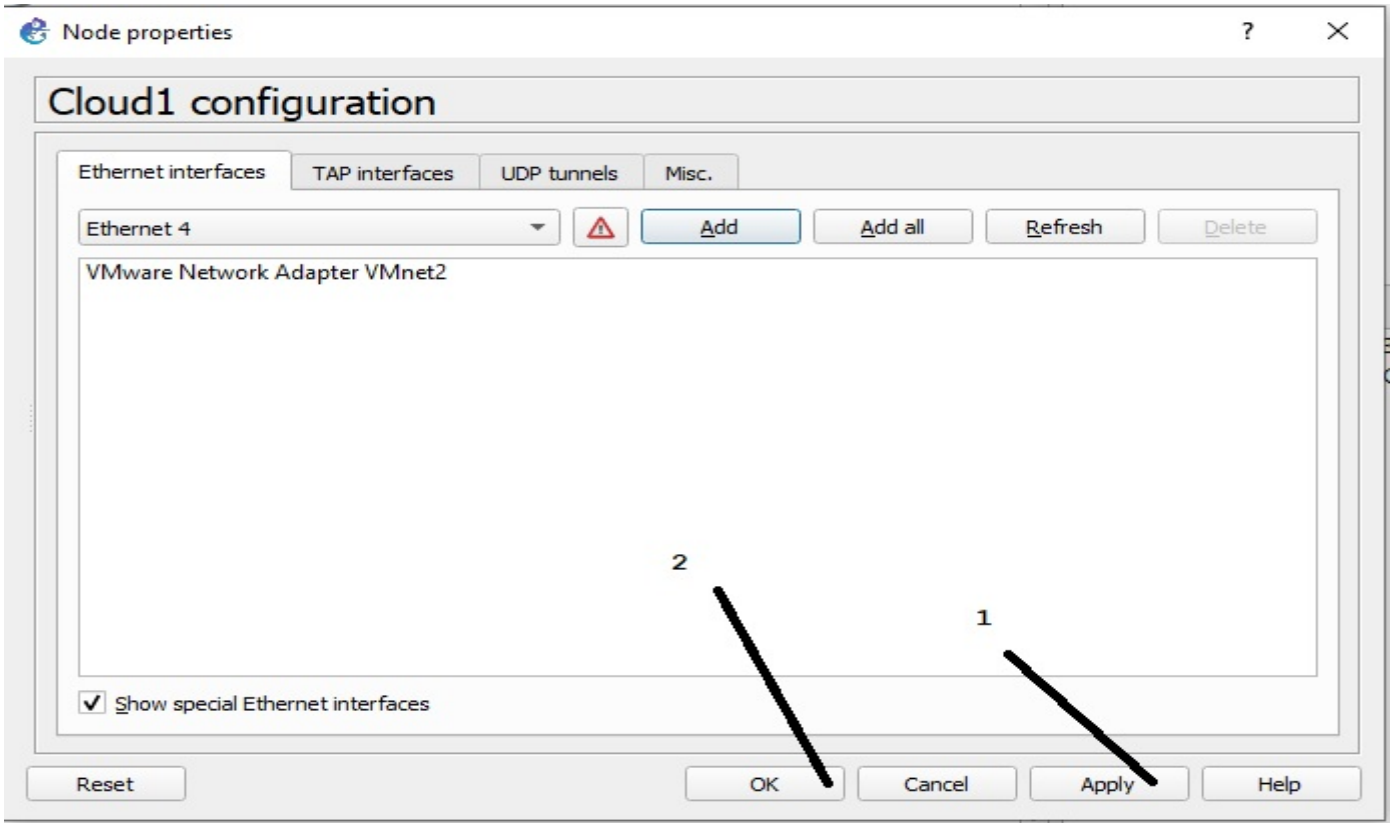




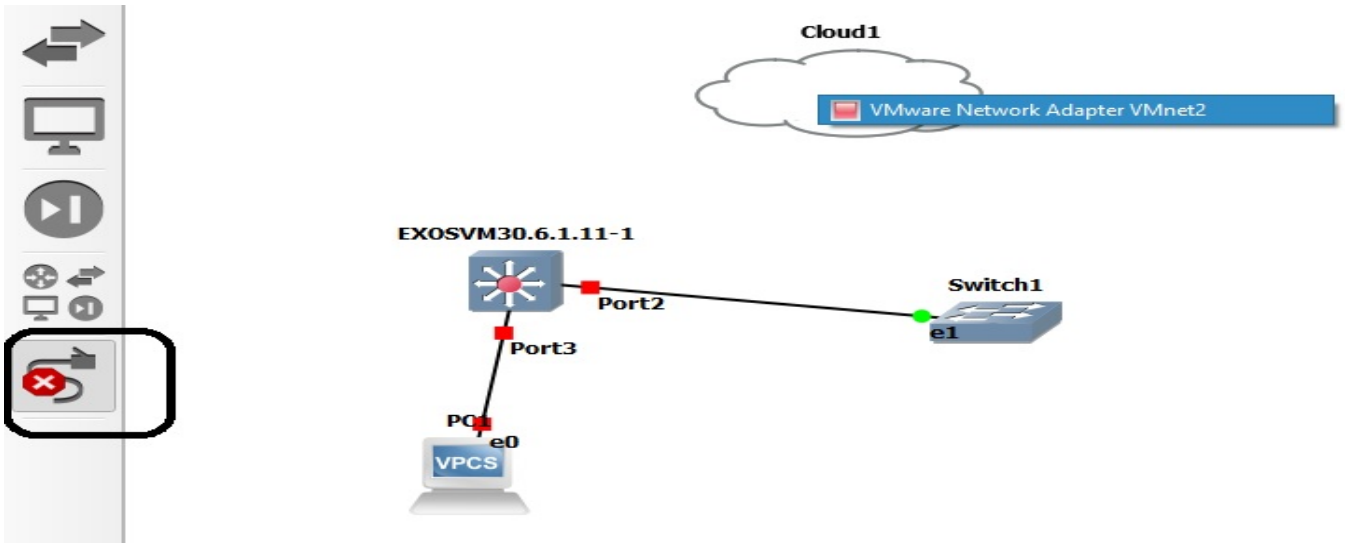
Cliquez sur show special ethernet interfaces, additionnez l'adaptateur vmnet2 , apply et ok

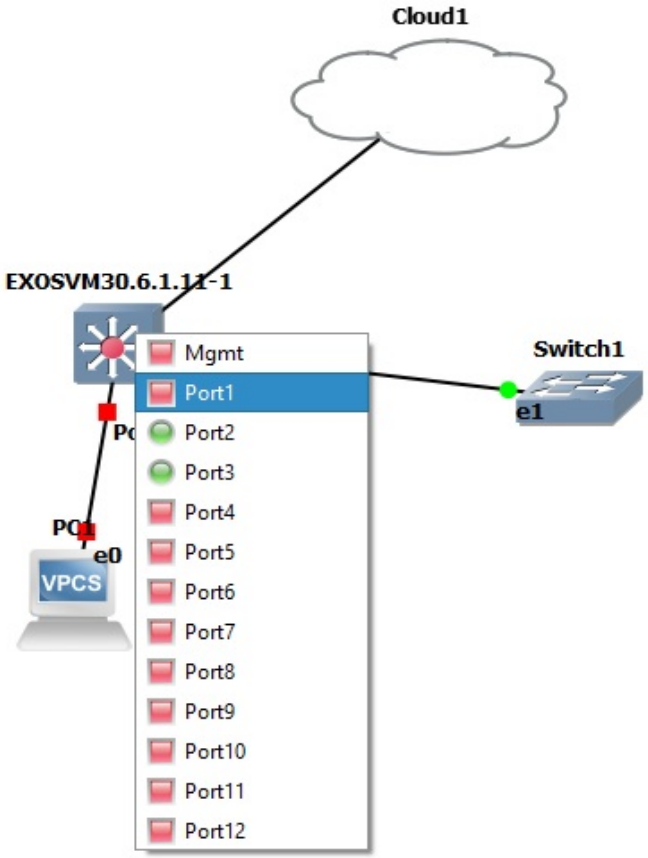



Node properties
Cloud1 configuration
Ethernet interfaces
TAP interfaces
UDP tunnels
Misc.
VMware Network Adapter VMnet2
Add
Add all
Refresh
Delete
Show special Ethernet interfaces
Reset
OK
Cancel
Apply
Help


Node properties
Cloud1 configuration
Ethernet interfaces
TAP interfaces
UDP tunnels
Misc.
Ethernet 4
Add
Add all
Refresh
Delete
VMware Network Adapter VMnet2
2
1
Show special Ethernet interfaces
Reset
OK
Cancel
Apply
Help

Créez un lien entre le composant cloud et le commutateur :



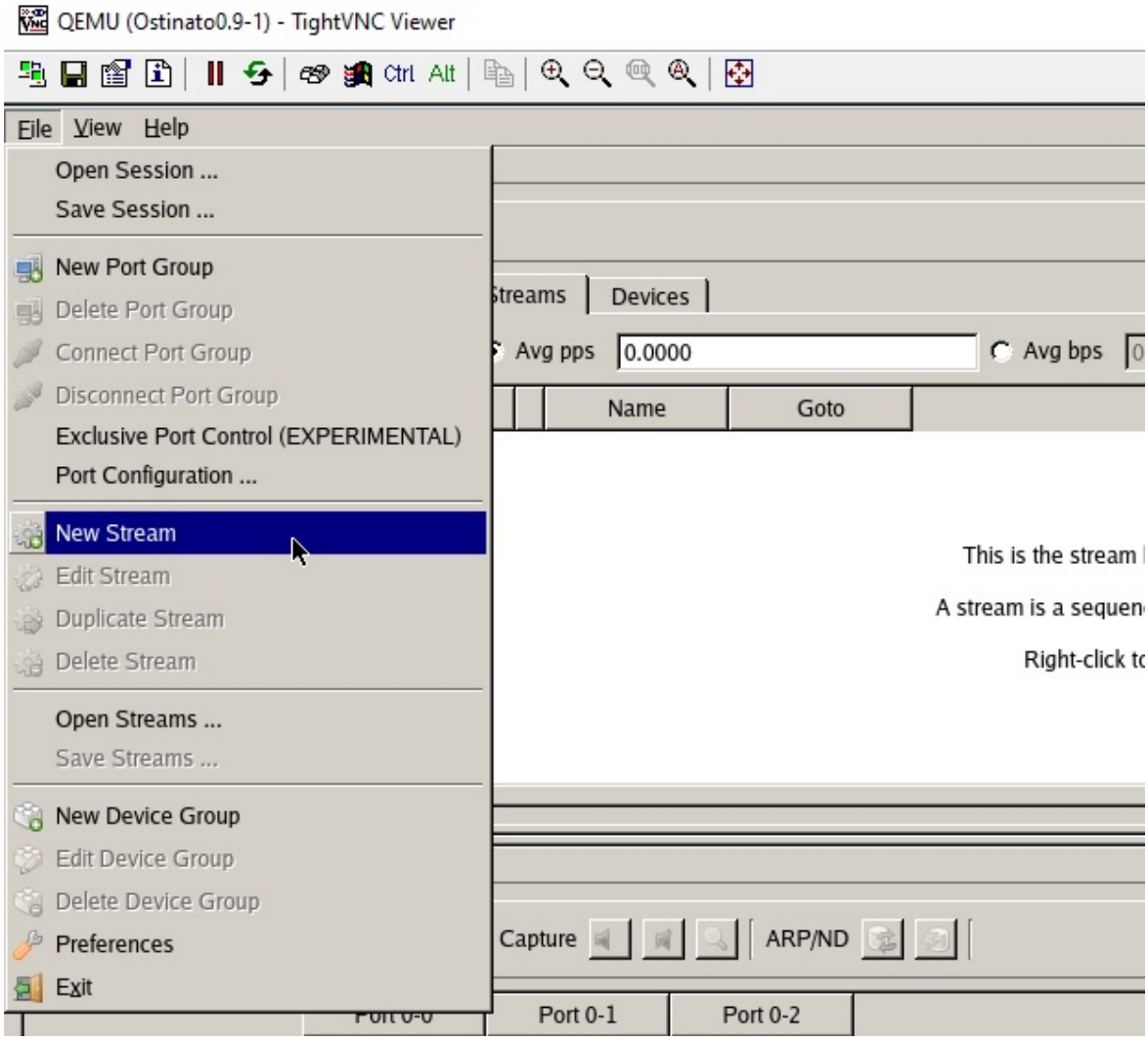


Mise en place du composant Ostinato

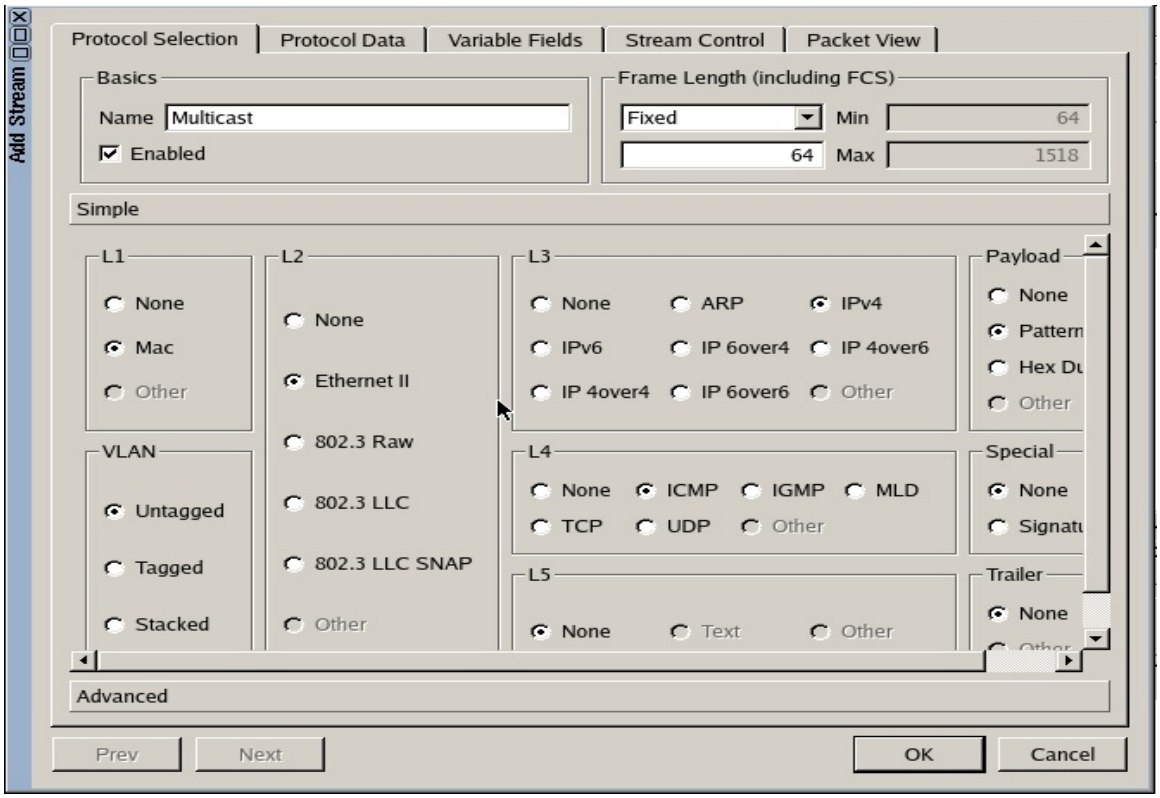
Le composant ostinato permet de générer des trames

Installer le composant en utilisant le menu import appliance fichier ostinato.gns3a et ostinato-0.9-1.qcow2

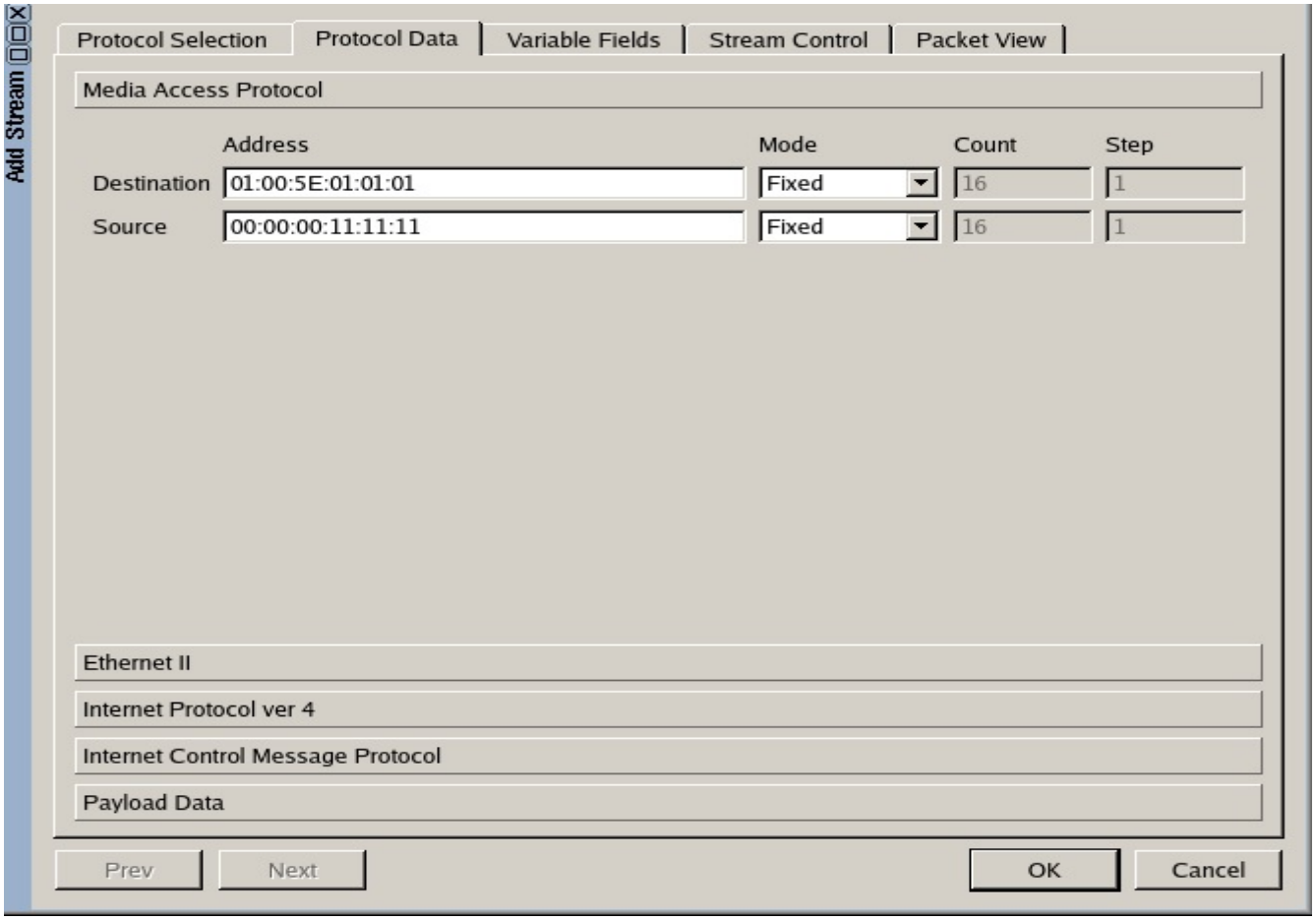
Créez un nouveau stream



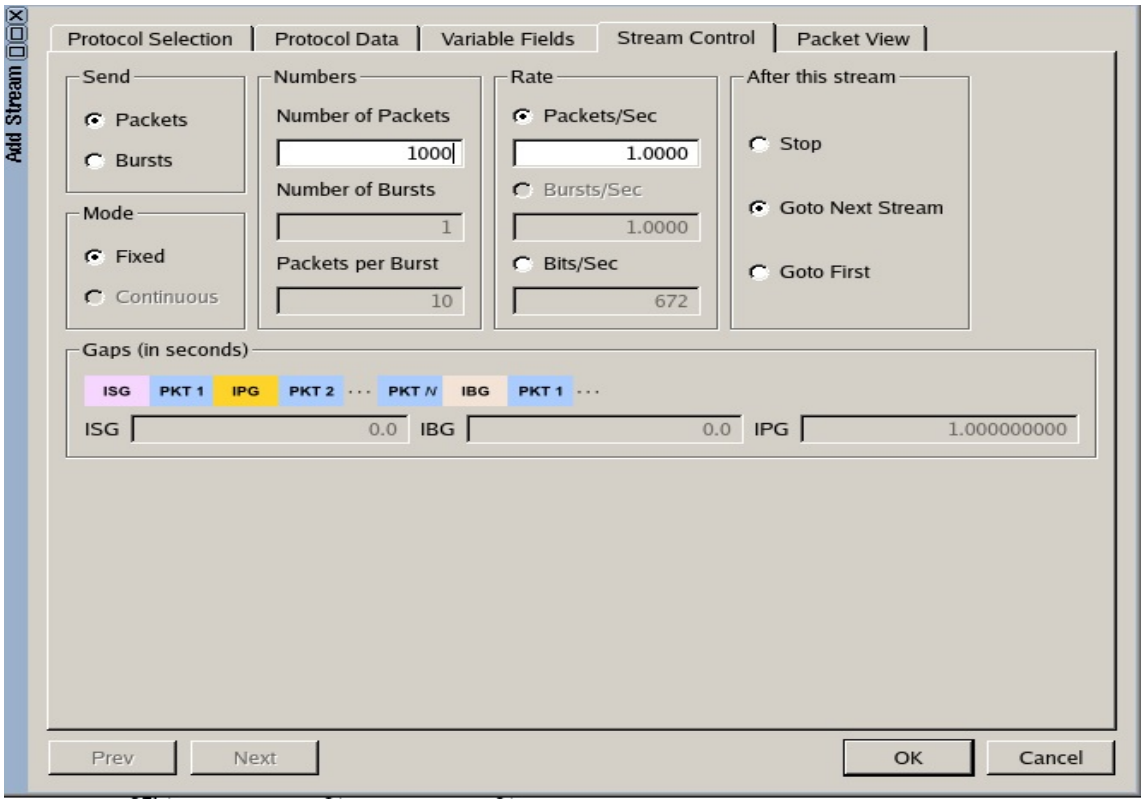
On va générer des trames du type ICMP de multidiffusion



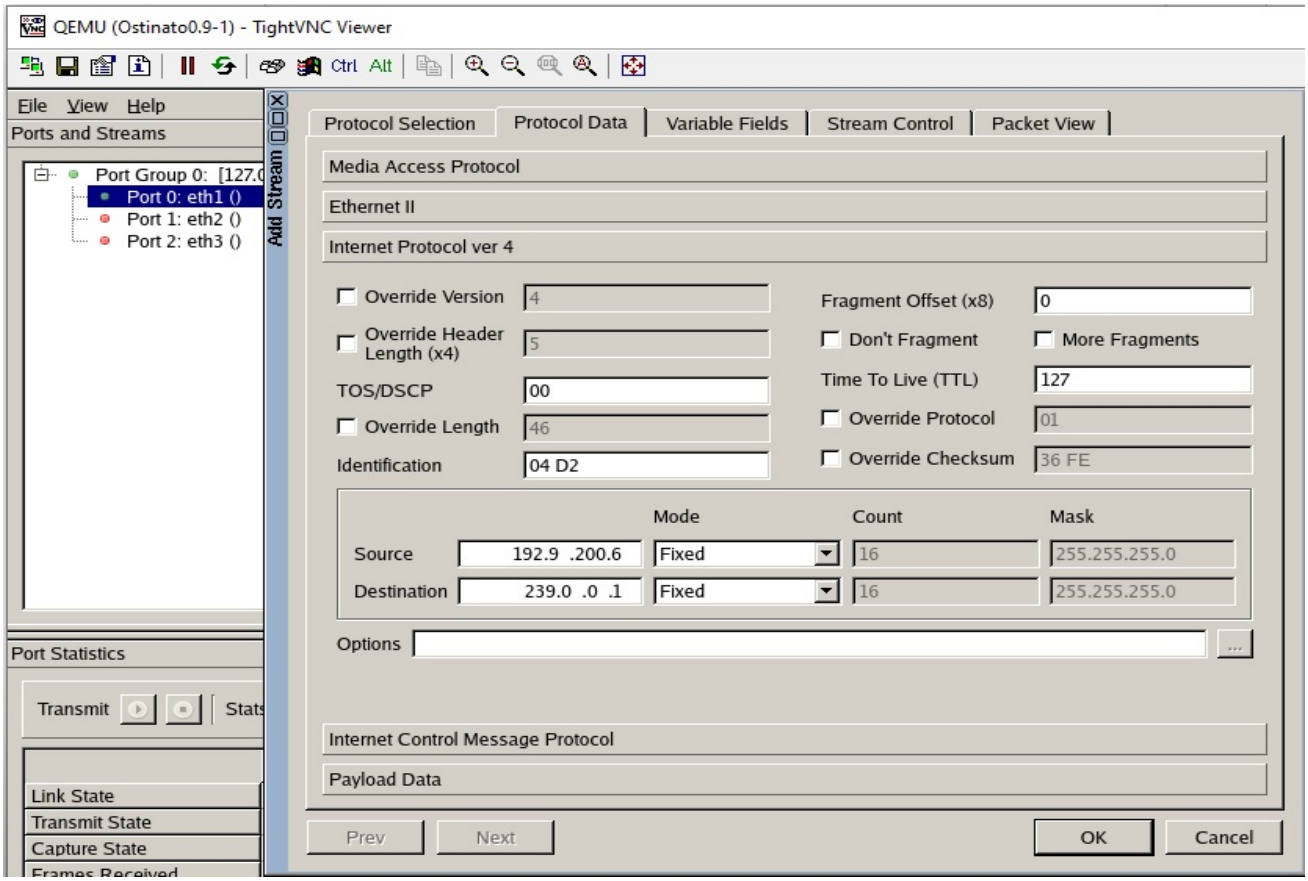
Cliquez sur protocol datat



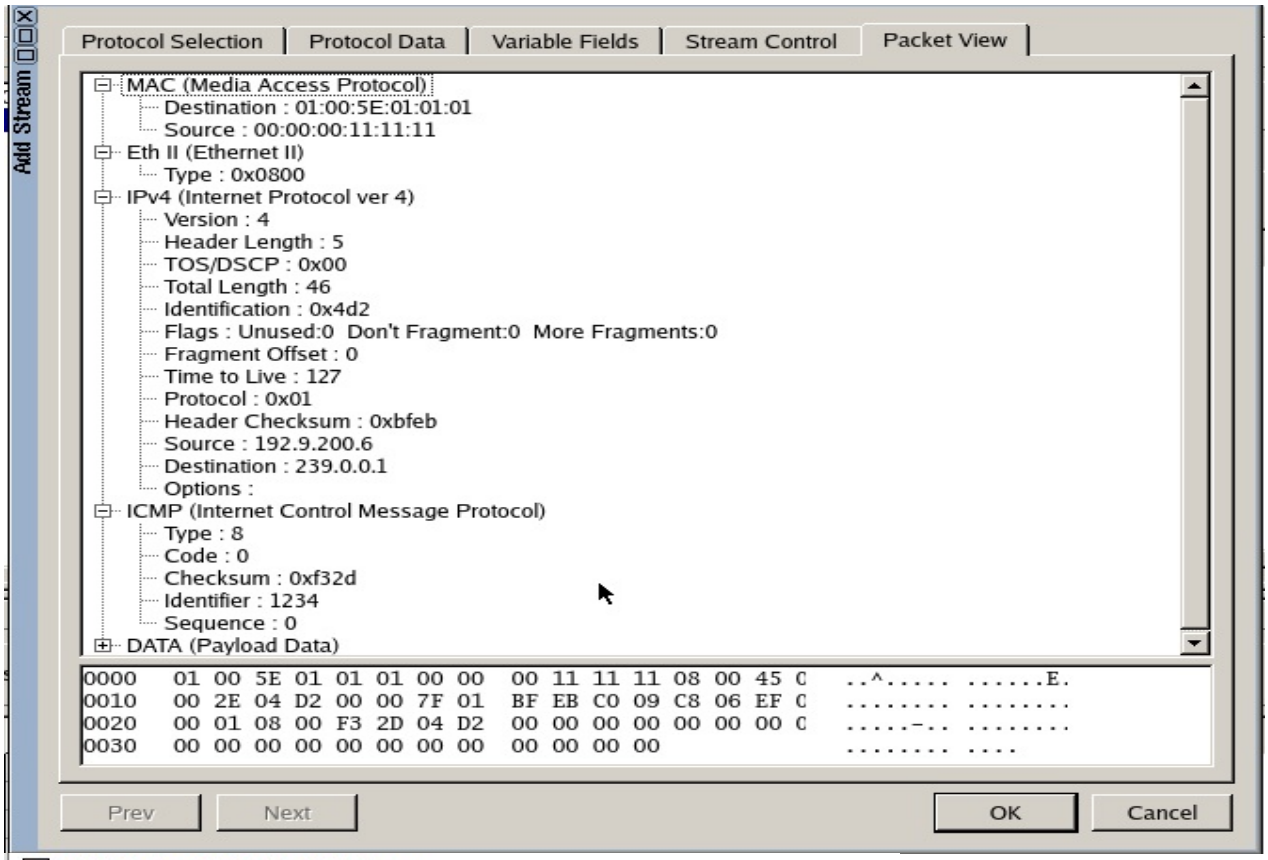
Définir la transmission de 1000 trames

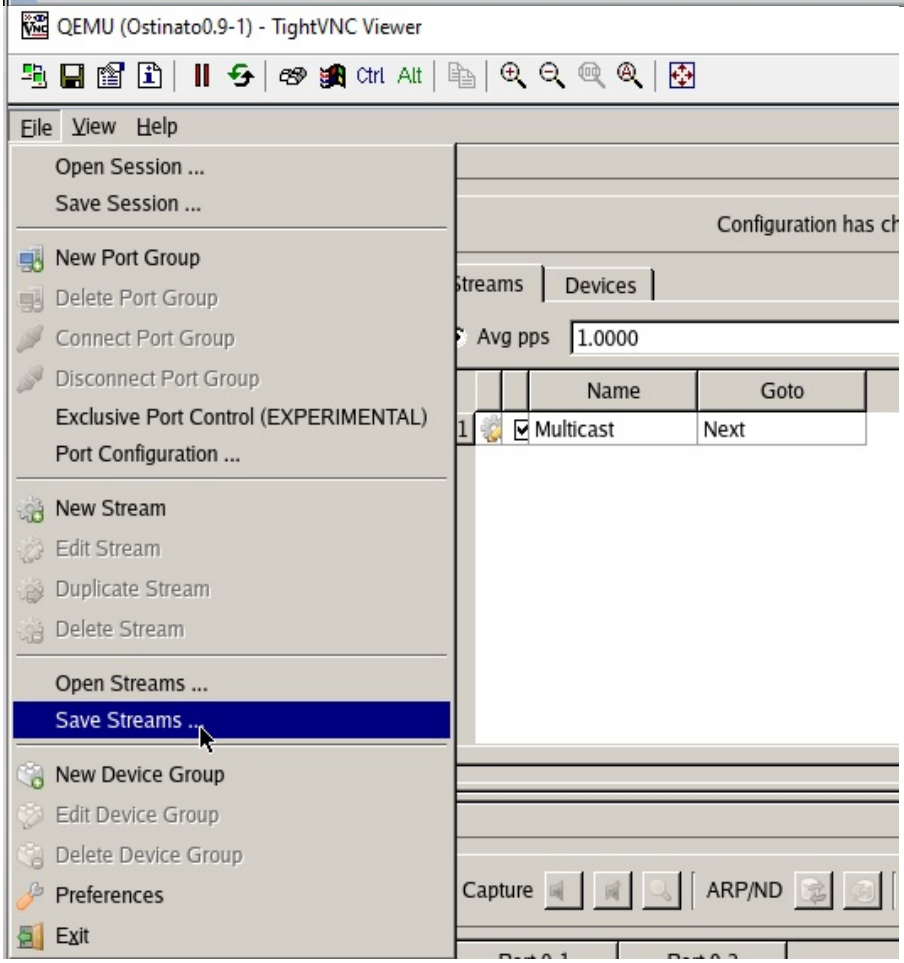


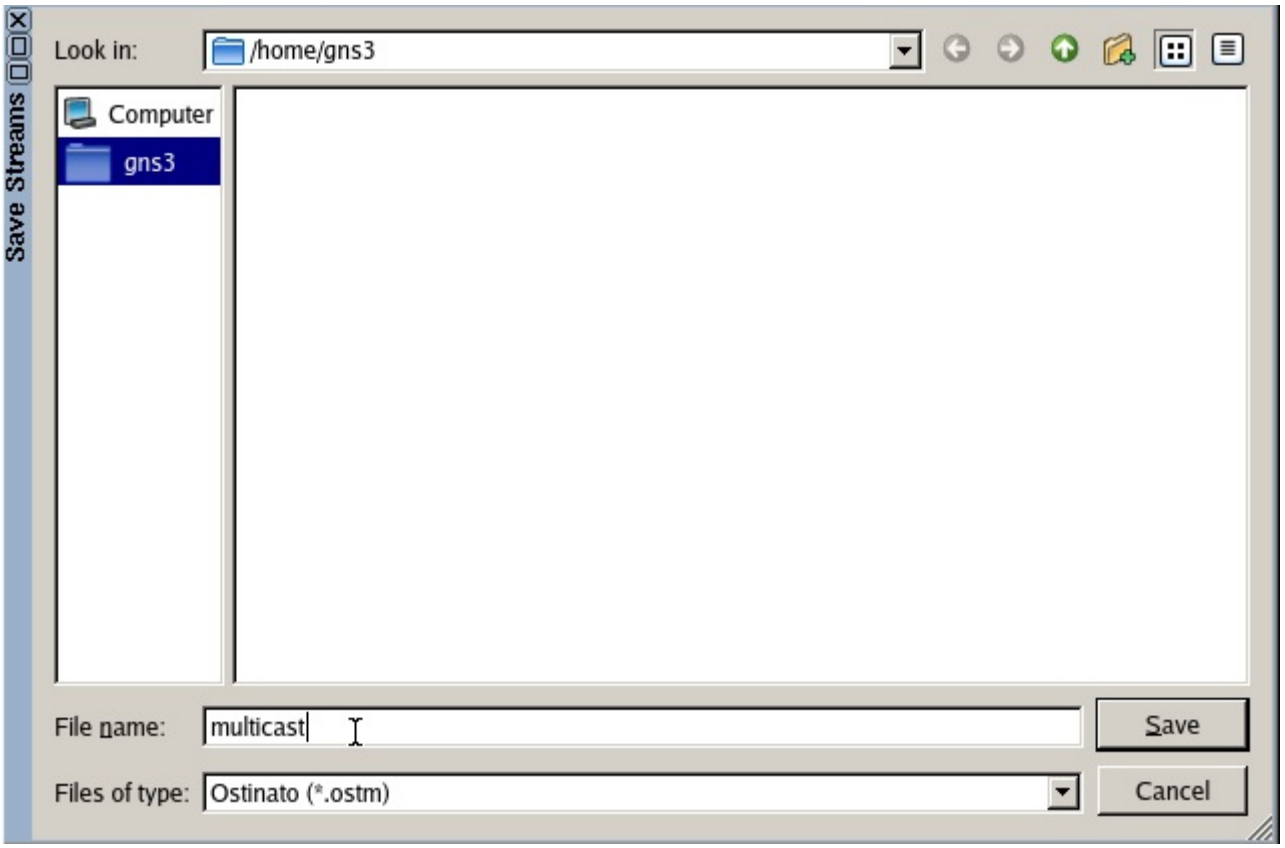
Définir les @ IP

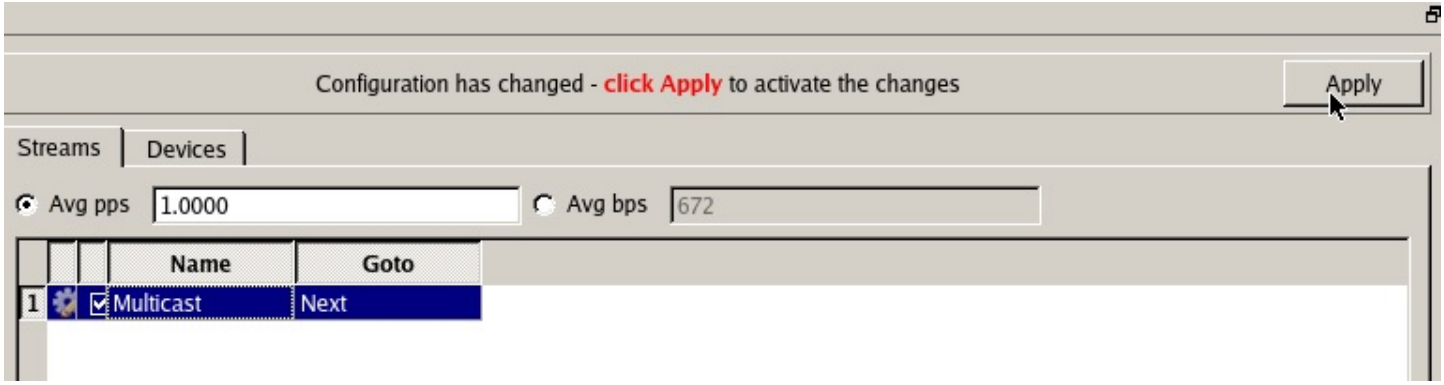


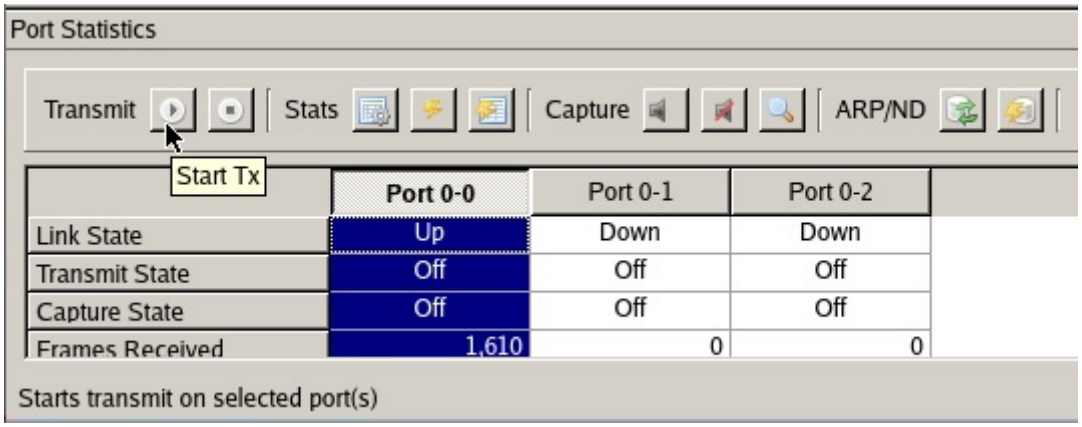
Vérifiez son contenu






Save Streams
Look in:
/home/gns3
Computer
gns3
File name:
multicast
Save
Files of type:
Ostinato (*.ostm)
Cancel


Configuration has changed - click Apply to activate the changes
Apply
Streams
Devices
Avg pps
1.0000
Avg bps
672
Name
Goto
1
Multicast
Next


Port Statistics
Transmit
Stats
Capture
ARP/ND
Start Tx
Port 0-0
Port 0-1
Port 0-2
Link State
Up
Down
Down
Transmit State
Off
Off
Off
Capture State
Off
Off
Off
Frames Received
1,610
0
0
Starts transmit on selected port(s)